DOCUMENT RESUME

ED 354 019 JC 920 584

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TITLE	Labour Trends and Training Needs in British Columbia.
INSTITUTION	Open Learning Agency, Burnaby (British Columbia).
SPONS AGENCY	Open Coll. Planning Council (British Columbia).
PUB DATE	92
NOTE	133p.
PUB TYPE	Reports - Research/Technical (143)
EDRS PRICE	MF01/PC06 Plus Postage.
DESCRIPTORS	Community Colleges; Economic Change; *Economic Climate; Economic Development; *Economic Factors; Educational Needs; *Educational Planning; Foreign Countries; Industrial Training; *Job Training; *Labor Force Development; Labor Market; Labor Needs; Needs Assessment; Nontraditional Education; *School Business Relationship; Two Year Colleges; Vocational Education
IDENTIFIERS	*British Columbia; Open Learning Agency BC

ABSTRACT

In an effort to meet the training needs of the British Columbia (BC) labor force, Open College (OC), in Burnaby, has focused future activities on market-driven, employer-centered training programs utilizing advanced technologies and traditional on-site instructional methods. Designed to ensure that these courses and programs reflect actual labor demands, this report examines BC's training needs, details economic and labor market trends and forces, identifies the extent to which training needs have been changed by such factors as industry demands and political developments, and recommends ways in which OC's programs can upgrade the level of skills of the BC labor force. After an introductory section discussing the purpose and methodology of the report, part II provides an economic and labor market overview, detailing information on: (1) a world overview, examining economic trends in the United States, Europe, and Asia; (2) the Canadian economy, reviewing demographics and employment, productivity, trade, and industrial development; (3) the BC economy; (4) provincial industries and industrial development; (5) developments in the workplace; (6) occupations and demand; (7) critical skills; (8) skills shortages; and (9) training trends, examining such areas as expenditures, delivery methods, and governmental role. Part III presents a series of recommendations for OC, emphasizing the need for training in information technology, management and supervision, workplace literacy, and total quality management. Appendixes include a map of BC, a table of government funding for training programs, profiles of the six BC regions, and BC industry profiles by region. An autumn 1992 update on the economic and market overview is attached. (PAA)

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LABOUR TRENDS AND TRAINING NEEDS IN BRITISH COLUMBIA

Prepared by Susan P. Walker
for the Open College Planning Council

Winter 1991/92

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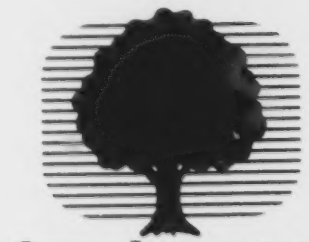

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AND TRAINING NEEDS IN BRITISH COLUMBIA

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LABOUR TRENDS AND TRAINING NEEDS IN BRITISH COLUMBIA

EXECUTIVE GUIDE

The Open College component of the Open Learning Agency is committed to meet the training needs of the British Columbia labour force. As a result, the Open College Planning Council has agreed that an annual review of the economy and its effect on training needs in the province of B.C. would facilitate the most efficient and effective distribution of resources toward career, vocational, and technical training. This report was produced as a result of secondary research on the economy and other factors affecting training needs.

In terms of the global economic situation, most countries, including Canada, the United States, Japan, and Britain are currently facing recessions or marked slowdowns in economic growth. Recovery for these countries should occur in 1992 as indicators suggest a real rise in output that will enhance economic growth. The Canadian economy is still waiting for a recovery from the United States to boost growth in exports. Canadian retail sales are down and investment is weak. Other factors such as increasing manufacturers shipments, steady inflation, slight increases in service sector outputs, a rise in consumer confidence, and growth in housing sales signal a slow recovery. Impediments to long term economic health, however, include the deficit, aging of the population, lack of production of new competitive goods, including exports, and Canada's poor relative cost competitiveness as measured by labour costs and productivity. However, activity in new knowledge-based industries, such as computers, communications, and health may aid long-term growth.

The B.C. economy is facing a similar situation, although not as severe. The B.C. economy is expected to grow by 1.5% to 2.0% in 1991 and 1992 respectively. Over the 1993 to 1995 period, the economy is expected to grow at an average annual rate of 3.3%— the same rate as the Canadian economy. Positive factors include a high level of immigration and continuing ties with the Pacific Rim. Those industries in B.C. suffering most from the current recession include forestry, coal mining, manufacturing, and airline transportation. Other areas of the economy, such as the health sector and emerging high-tech industries seem to be experiencing some growth.

Several factors are currently affecting the economic situation and labour market within the province. These factors have served to extend and reinforce the direction of the economy over the previous year. They will shape the workforce of the 1990's and will govern the approach of the Open College Planning Council to addressing training needs. The factors are as follows:

- Slow growth of the workforce.
- Aging of labour force participants.
- Increasing employment in the service sector.
- Concentration of "good" jobs in large metropolitan areas.
- Growth in jobs requiring high skills and knowledge.
- Growth of non-traditional employment .
- Increase in number of non-traditional workers.
- More sophisticated technology in industry and the workplace.
- Information explosion.
- Automation replacing unskilled labour.
- Global competition.
- Acute skilled labour shortages.

Recent economic, demographic and competitive pressures have caused many organizations to adopt new ways of doing business. In the area of human resource development flattening of organizational structures, outsourcing of internal functions, new management principles, and even the re-engineering of workforces are becoming commonplace. The nature of careers is changing too. Most employees will hold four to six jobs in two to three different career areas and job security is a thing of the past. Those jobs in greatest demand are in the service sector and in the areas of health and technology. Those jobs in greatest decline are low-skilled jobs, especially those in the natural resources sector within goods-producing industries. Critical skills will be those considered essential to the new work environment. Multi-skilled workers who can adapt to new tasks and technologies will be required. Workplace literacy will encompass more advanced computer literacy, communication, analytic, and leadership skills. Due to increasing skill shortages, employers will have to rely on non-traditional labour groups such as immigrants, the disabled, older workers, and temporary and part-time employees.

Because of pressures to increase productivity, while relying on a changing and aging work force, industry will feel increasing pressure to train workers. New market conditions, along with qualitative improvements in training has led to its expansion. Recent training trends include the outsourcing of training, focus on workplace-based training, and upgrading of skills using advanced technologies. Industry continues to place a greater emphasis on executive and management training, especially in the areas of leadership and professional upgrading. Training for trades, production, and clerical staff typically concentrates on computer training, communication skills, and technical knowledge.

There have been minimal changes in the B.C. economy over the past year that would suggest a change in focus in initiatives through the Open College Planning Council. Developments in the labour market, industrial sectors, and training

areas suggest that the workplace of the 1990's and beyond will continue to demand highly skilled and flexible workers with knowledge in a number of key areas. These skill sets are generic and applicable to virtually any industry or sector. They include information technology, management and supervision, workplace literacy, and total quality management. In terms of industry-specific skills, health, science and technology will play increasing roles in the Canadian economy.

Given this context, it is recommended that the Open College continue to focus on specific workplace-based training initiatives, especially in the areas of management, information technology, basic skills and service quality. In addition, it is expected that, where possible, these initiatives proceed after further market research and with the involvement of private and public sector partners.

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LABOUR TRENDS AND TRAINING NEEDS IN BRITISH COLUMBIA

I. INTRODUCTION

A. BACKGROUND

What are the Open College and Workplace Training Systems?

The Open College component of the Open Learning Agency is committed to meet the training needs of the B.C. labour force. As a result, the Open College has made Workplace Training Systems the primary focus of its future activities. The aim is to enhance human resource planning and assist in the production of a better, more capable and competitive workforce in B.C.

Workplace Training Systems is market-driven and employer-centred. Training programs may be customized or systems may be specially created to meet unique organizational requirements. A team of consultants play an essential role in co-ordinating activities and providing value added to existing training products and services. Consultants have access to all existing Open College programs as well as to the latest training materials from international sources. Training is delivered using an expanded system of advanced technologies, such as computer-based training, CD ROM, linear and interactive video, as well as more traditional alternatives including on-site instruction, printed materials, and audio and video tapes. This approach creates comprehensive training programs for employees and employers. Therefore, it is important that all training courses and programs reflect labour market demands.

Many of Open College's stock courses are recognized and accredited by colleges, universities, and numerous trade and professional associations, and are accessible by individuals as well as by employers. The modular, portable design of these programs offers individuals very flexible alternatives including independent study at the workplace, the home, or a local learning centre. The B.C. Educational Credit Bank also enables individuals to have existing workplace skills assessed and evaluated for post-secondary credit. In order to create training programs which meet industry needs, research is needed for planning, development, delivery, and marketing purposes.

B. PURPOSE OF STUDY

Why produce this report?

The purpose of this study is to provide an update and supplement to the findings presented in the 1990 document for the Open College Planning Council *Training and the Economy: An Analysis of Labour Market Trends and Training Needs in B.C.* The Open College Planning Council is made up of representatives from other post-secondary institutions and industries. The mandate of the Council is to identify needs and set priorities for instructional development. As agreed by Planning Council, an annual review of the economy and its effect on training needs in the Province of British Columbia, facilitates the most efficient and effective distribution of resources toward career, vocational and technical training. This report is also meant to serve as a labour market and training guide for employers. Specifically, the objectives of this report, are to:

- Examine the provincial training needs arising from previous labour market analyses.
- Examine forces within the economy and trends within the labour market that affect training needs.
- Identify to what extent these needs have changed through such factors as the provision of training, changes in the economy, industry demands, new political developments, and other external influences.
- Recommend ways to upgrade the skill level of the provincial labour force, including continuing to identify critical areas and a strategic direction for the Open College and Workplace Training Systems.

C. METHOD OF STUDY

How was this report developed?

The information contained in the recent training needs analysis *Training and the Economy: An Analysis of Labour Market Trends and Training Needs in B.C.*, was reviewed to determine past provincial training needs and priorities. The information in this report was updated and augmented by a literature search to obtain recent data and information concerning the economy and other factors affecting training needs. Open College initiatives funded by the Planning Council were also reviewed to determine to what extent training needs were being addressed.

Based on this analysis, conclusions were drawn and recommendations given regarding the continuation of the Open College's current strategic direction. Two questions were addressed: Have there been any significant changes in our operating environment over the past year that would warrant a change in emphasis? And if so, how will the Open College deal with these developments?

II. ECONOMIC AND LABOUR MARKET OVERVIEW

A. World Overview

How does the performance of other industrialized countries compare to Canada?

1. United States

The outlook for 1992 is one of slow recovery. The 1990/91 recession turned out to be more severe than expected. Total output in the economy has declined by -2.8% due to a large reduction in domestic demand. On a monthly basis, housing starts, retail sales, and other indicators have been wavering between slight gains and slight decreases. Production has been increasing in some industries such as steel, automobiles, and lumber, but falling in other industries such as power, coal, and paper. Employment and earnings have not yet increased sufficiently to boost retail sales. Retail sales account for half of consumer spending which, in turn, accounts for two thirds of total economic activity. Other negative economic factors include high interest rates, the large federal deficit, high consumer and business debts, over-supply of office and retail space, and increased taxes. All these suggest the continuation of the current recession into 1992.

Eventually, however, indicators suggest a strong recovery. Business inventories have been kept under control, so increased production, new jobs, and new plant spending will result almost immediately after demand increases. Exports should continue to rise throughout the recession.

2. Europe

With the exception of Britain, all European economies are forecasting growth for 1991/92. In Germany, total output is expected to increase by 2.6% in 1991, slowing slightly in 1992 to 2.4%. Unemployment remains high, however, with an average growth of 9.0% and 9.5% expected for 1991 and 1992 respectively. In France, unemployment is also high averaging 9.3% during 1991. Growth is forecasted to reach 1.5% this year and 2.5% in 1992. At 11.0%, Italy's unemployment rate is one of Europe's highest. Growth will reach 1.6% this year and is hoped to reach 2.5% in 1992.

Britain, however, is still suffering from declining growth, low consumer confidence, high unemployment, and weak retail sales. Inflation is expected to continue at around 6% while growth in real output will decline by 1.5% in 1991.

3. Asia

While not in a recession, the economy of Japan is slowing. Growth in output has moved from an average of 5.5% in the past three years to 3.5% growth in gross national product (GNP) for this year. Inflation has peaked at 4.0% while consumer prices are expected to rise by 3.2% in 1991. Inflation is then forecasted to fall to 2.6% in 1992. Housing starts, however, are still sluggish, along with slow consumer spending, and declining industrial manufacturing.

B. The Canadian Economy

What is the current state of the Canadian economy?

1. Outlook

The Canadian economy is only now recovering slightly from the recession. Inflation continues to fall while international trade, manufacturers' shipments, home sales, and consumer confidence are improving. Other indicators, however, suggest the recovery is industry and location specific. Retail sales are down, and bankruptcies continue to increase. In addition, savings rates are low, and consumer debt and interest expense burdens are high. However, technically the economy has grown consistently for the last nine months. Forecasted growth for next year, as measured by the change in real domestic product, is 2.0% to 2.5%, as compared to a 1% decrease for 1991. Gains have already occurred in some goods-producing and service industries.

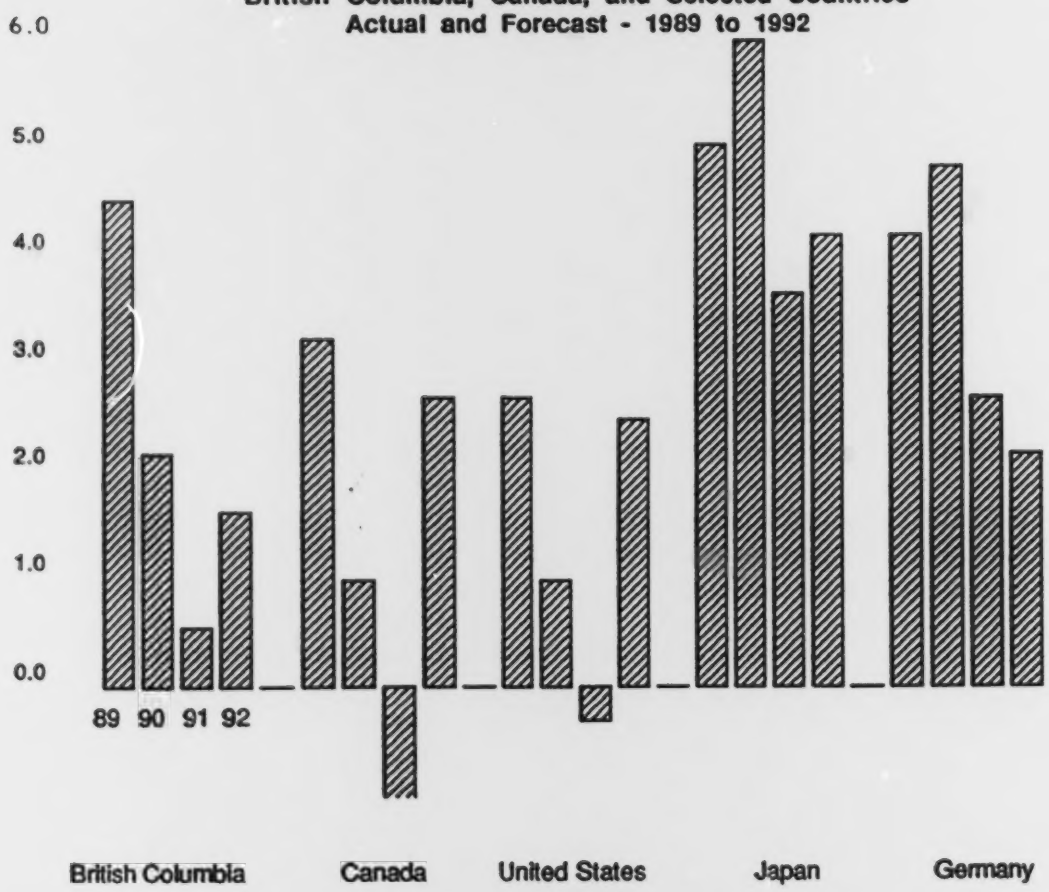
Most of the decline in growth over the last several quarters has been a result of poor performance in the manufacturing sector. In 1990, for example, 185 140 fewer automobiles were produced, representing a 9.6% drop in output. Household appliances, clothing, and footwear fell even more drastically. In the resource sector, the greatest declines were felt especially in lumber and newsprint. Declines were also felt in real persona expenditures as they dropped by 2.6% in 1991. Consumer durable goods fell by 7.4% and semi-durable goods dropped by 8.0%. The number of construction activities, building permits, and housing starts also plummeted dramatically, although housing resale activities have recently picked up.

Consumer confidence is low as private and public debt continue to grow. Outstanding consumer debt and interest expense burdens, as a percentage of disposable income, have been increasing since 1986. They currently stand at approximately 80% and 10% respectively. The federal deficit reached $405-billion in August of 1991. Declining revenues suggest the deficit for 1991will total between $30-billion and $40-billion.

In exports, Canada is still waiting for a recovery from the U.S. in order to benefit from increased demand. Almost 75% of Canadian exports are sold in U.S. markets. The rise in automobile and lumber exports may signal a slight recovery although surpluses have only been recorded for transportation, telecommunications, machinery and manufactured goods.

Figure 1

Percentage Change in Real GDP in British Columbia, Canada, and Selected Countries Actual and Forecast - 1989 to 1992



(Source: B.C. Central Credit Union. *Economic Analysis of British Columbia.* 1991.)

2. Demographics and Employment

Statistics Canada estimates the current Canadian population to be approximately 26 100 000. The overall size of the population will increase until the year 2026. Growth will turn to decline by the year 2036 as the median age of the population falls and the birth rate decreases. By the year 2036, 25% of the population will be over the age of sixty-five. Recently, the number of workers entering the labour force has fallen to approximately 230 000 per year and will decline further to 180 000 at the end of the decade. Growth in the labour force in the 1990s is considered moderate at approximately 1.3% annually. Due to the continuing economic expansion, unemployment will eventually fall to around 5.2% by 2005. However, in order to stabilize and guarantee a reasonably-sized labour force in the long term, increased immigration will be necessary. Studies suggest that if the Canadian birth rate remains at 1.7%, the percentage of foreign-born residents will stabilize at 23%.

In 1991, the recession is still affecting the Canadian job market. Of the approximately 14 million individuals in the Canadian labour force, over 300 000 were out of work during the first year of the recession (March 1990 to March 1991). Employment losses are concentrated among youths and older men. Part-time employment and employment opportunities for women increased during this period. Overall, the unemployment rate has risen to over 10.0%. The yearly increase in the consumer price index is approximately 6.4%. Earnings, however, are increasing only by 5.6% annually.

3. Productivity

Canada's cost competitiveness, as measured by labour costs and productivity, is weakening compared to other industrial nations. Canada is currently in a favorable position and ranks fifths among developed countries in global competitiveness. In a recent survey of Canada the Organization for Economic Cooperation and Development (OECD) said Canada was "well placed to maintain its role as one of the most prosperous and fastest growing economies among the OECD area." However, according to the IMD International, Canada will soon fall to eighth position among the Group of Seven (G-7) industrial countries, behind the Netherlands, Denmark, and Ireland. Aggregate labour productivity, defined by output per worker, rose in 1991. This was due to an increase in layoffs to compensate for decreasing sales and cuts in

output. Aggregate labour productivity, as measured by real business sector output per hour worked, grew only by 0.4% in 1990, compared to 1.7% in 1989, and by an annual average rate of 1.5% between 1981 and 1989. The service sector was largely responsible for this decrease as wholesale and retail trade productivity fell by 5.5%. In contrast, output per hour increased by 2.6% in the goods sector. This increase was due to strong productivity growth in manufacturing and construction. Decreasing demand has resulted in layoffs. Consequently, the decline in working hours has surpassed cuts in production.

Changes in unit labour costs are measured by three factors: the exchange rate, labour productivity, and hourly labour compensation. Unit labour costs in Canada grew by 3.4% per year between 1981 and 1988, compared to a 0.4% increase in the United States. Due to the depreciation of the Canadian dollar, however, cost competitiveness with the U.S. improved. In the same period, the cost competitiveness of Canadian manufacturing deteriorated with Britain but remain unchanged with France, and actually improved with Italy and Japan. Recently, however, Canada's actual cost competitiveness with the U.S. in manufacturing has continued to deteriorate. The value of the Canadian dollar appreciated by 17.1% between 1985 and 1990 and the output per hour advanced by 1.2% compared to 19.2% in the U.S. As a consequence, since 1985, unit labour costs have increased by 45.6% in Canada and declined by 0.3% in the U.S.

Figure 2

Trends in International Competitiveness in Manufacturing in Major OECD Countries
Average Annual Rate of Change 1981 - 1988

Country	Unit Labour Costs** ($US)	Exchange Rate (versus the $US)	Unit Labour Costs* (domestic currency)	Hourly Labour Compensation	Output per Hour
Canada	3.0	-0.4	3.4	5.8	2.3
U.S.	0.4	-	0.4	4.3	4.0
Japan	6.2	8.1	-1.7	4.0	5.9
Germany	5.4	3.6	1.7	4.7	2.9
France	3.4	-1.3	4.8	8.4	3.4
U.K..	0.1	-1.8	1.9	7.4	5.4
Italy	4.7	-1.9	6.7	11.2	4.2
Unweighted Average	3.3	1.1	2.5	6.5	4.1

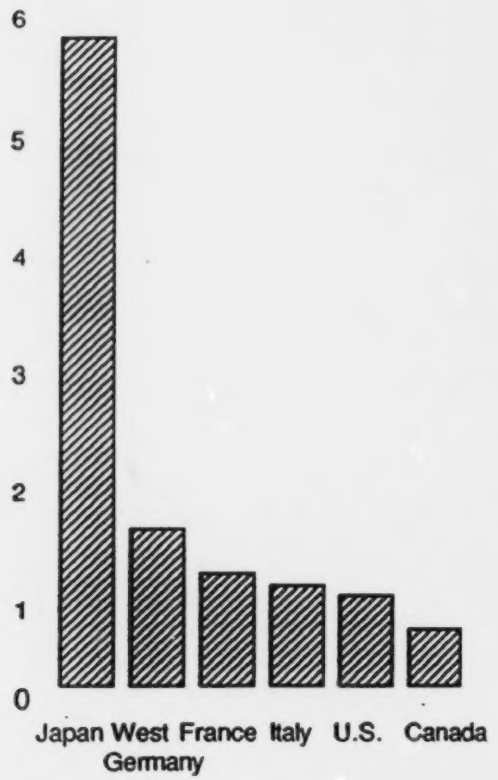
* = Column 4 - Column 5 (approx.)
** = Column 3 + Column 2 (approx.)

(Source: U.S. Bureau of Statistics. June 1989. Canadian Labour Market and Productivity Centre. 1990.)

Canada has also demonstrated the inability to produce new goods, and has faired badly in terms of its trade deficit for high-technology products. The high-tech sector is of particular importance as innovation and product advances boost productivity in all sectors. Demand for high-tech products is also very high currently, compared to the demand for more traditional products. In addition, a dynamic high-tech sector helps indicate the extent to which Canada enjoys a highly trained labour force. In 1987 Canada ran a trade deficit of $7.2 billion in the high-technology area, up from $5.4 billion in 1981. Canada has the lowest ratio of exports to imports in high-technology products among the seven major OECD countries. In summary, within most areas, Canada seems unable to improve its overall productivity level relative to competitors.

Figure 3

Export/Import Ratios in High-Technology Products 1985



(Source: OECD, Paris. Statistics Canada. *Perspectives on Labour and Income*. 1991.)

Several factors have combined to soften the competitive position of Canadian industry. In the past, industry has tended to rely on the allocation of resources for competitive advantage. In addition, Canadian companies lack domestic rivalry, adequate domestic suppliers, and a demanding consumer base. This creates a disincentive to invest in technology, upgrade into higher value added products, to invest in human resource development, or utilize labour effectively. However, Canada does possess a strong competitive position in health and communications as well as strong industry clusters in the transportation and technical consulting fields.

4. Trade

Approximately 30% of Canada's gross domestic product depends on exports, double that of the United States and three times that of Japan. However, with the exception of sales of cars and parts guaranteed under the 1965 auto pact, virtually all that Canada sells to foreign buyers are commodities. Half of Canada's 400 000 manufacturing companies sell only to other Canadian companies or consumers and export nothing. Growing demand by Canadian industry for sophisticated, value added products is typically met through imports. Trade deficits in this area, and trade surpluses in resource based goods, point to Canada's poor competitive position.

Figure 4

Canada's Trade With Major Trading Blocks

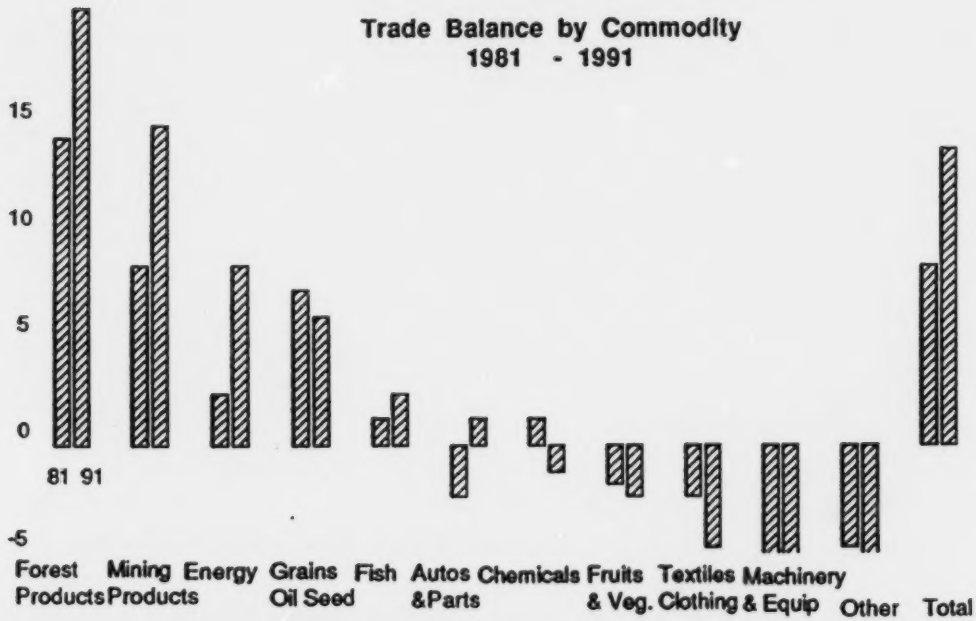
	Exports		Imports	
	1991 est.$billion	1991 vs 1981	1991est. $billion	1991 vs1981
North America*	107.2	+89%	91.6	+70%
European Com.	12.3	+41%	13.2	+105%
Japan	7.2	+57%	8.3	+105%
NICs	4.3	+327%	5.6	+156%
Emerging NICs	1.2	+175%	1.3	+349%
Other Asia	2.3	+58%	3.6	+827%
Oceania	0.9	-4%	0.9	+29%
Other Europe	2.7	-28%	4.8	+148%
Middle East	1.4	-8%	0.8	-72%
Africa	0.9	-27%	0.9	-12%
Latin America	2.1	-31%	2.6	-37%

* Includes Mexico
** Hong Kong, S. Korea,Singapore,Taiwan
*** Indonesia, Malaysia, Phillipines, Thailand
(Source: Statistics Canada, Bank of Canada, Financial Post estimates. *Trade outlook brighter than we picture it.* 1991.)

Despite the growth of non-resource-based manufacturing, British Columbia still depends heavily on exports of raw materials. The percentage of resource-based GDP actually decreased for the rest of Canada from 12.4% in 1981 to 11.1% of GDP in 1989. However, resource-based exports still account for approximately 85% of total B.C. exports compared to 40% for the rest of Canada and less than 25% for the United States.

Figure 5

Trade Balance by Commodity
1981 - 1991



(Source: Statistics Canada, Bank of Canada, Financial Post estimates. *Trade outlook brighter than we picture it.* 1991.)

In their Canadian Business Bulletin, a recent survey of exporters by the Canadian Labour Market and Productivity Centre outlines the growing importance of training for international competitiveness. Currently, there are inadequate human resources to support export activities. Close to two-thirds of firms surveyed reported hiring difficulties; 50 percent of exporters felt this had a negative impact on production and trade. The greatest barrier to solving this problem was felt to be inadequate preparation by schools and the lack of sensitivity to workplace needs in the educational community.

5. Industries and Industrial Development

a. Goods-Producing Industries

The goods-producing industries, in general, are prone to cyclical economic patterns. Traditionally, high interest rates and falling incomes lead consumers to postpone buying durables and housing, and firms delay purchase of equipment and machinery. Between May 1989 and December 1990, approximately 315 000 jobs have been lost in the manufacturing sector in Canada. Industries affected include food and beverages (37 000 jobs lost), wood industries (31 000), fabricated metal products (27 000), automobiles and trucks (2[illegible] 000), primary metals (20 000), machinery (23 000), automobile parts, electronics, and printing and publishing (21 000). In other goods- producing industries, such as construction, employment declines were pronounced. The level of employment dropped by 120 000 between March 1990 and March 1991.

In terms of output, the goods sector has fallen by over 11% in the las quarter of 1990 and in the first quarter of 1991. Those industries hardest hit include forestry and logging (-23.3%), manufacturing (-9.0%), construction (-8.0%), and agriculture (-6.3%). In B.C., the large decline in output (4.1% in 1990/91) was caused primarily by the downturn in the forest products industry.

Most of this job loss is estimated to have come from increased globa competition, the high dollar, high interest rates, and the Free Trade Agreement. It has been suggested that Canada must cultivate a highly skilled workforce in order to attract high-paying industry and diversify into more advanced secondary manufacturing.

b. The Service Sector

The service sector consists of three types of services: dynamic (transportation, wholesale, finance, insurance, real estate, and business services), traditional (retail, accommodation, recreation, and personal services), and non-market (education, health, public administration and social services). Almost 90% of current net employment has been created within the service sector. The service sector now encompasses 71% of all workers compared to 29% for goods-producing industries. In fact, an analysis of job separations ir 1986 shows that 40% of workers who faced layoffs in goods-producing industries had to find work in services.

Within the service sector, only trade and transportation and communication experienced real declines in output during the recession. Trade declined by 8.6% and transportation and communication declined by 1.4%. In finance, insurance, and real estate, output was up by 2.9%, in government services, it was up by 1.1%, and in community, business, and personal services, it increased by 0.2%. While trade in services has been growing rapidly, few industries in Canada have reached international levels of competitiveness. Canada's service exports as a percentage of total exports are the lowest of the seven leading industrial countries.

Long-range changes within the service sector include: an increase in non-standard (part-time, temporary) employment; a growing inequality between workers as workforce gains are occurring at the high and low end of the wage scale; rapid technological change through investment in machinery; and an increase in technical intensity within numerous industries. International trade in services is of increasing significance within business services and communications transactions.

c. Small Business

Small business is generally defined as those firms with fewer than 50 employees. Firms with 50 to 499 employees are classified as medium-sized by the Canadian Federation of Independent Business. In Canada, in 1988, 97.4% of companies had fewer than 50 employees. More than 75% of these firms are found in the service sector, particularly business and personal services, retail, and construction activities. Only 8.5% are active in the primary industries while 4.8% are involved in manufacturing. In terms of employment, however, small businesses contribute significantly to employment growth within the service sector, rather than to the overall share of employment.

While British Columbia contains only 11.5% of the country's population, 13.9% of Canada's small business operations are located in B.C. The small business sector plays a significant role in the B.C. economy due to the number of firms operating in the province and the jobs generated by these operations. In 1988, there was a total of 127 460 companies in the province; 96% of these were small businesses. These firms were responsible for 490 000, or 40.5%, of the full-time jobs in the province. During the period 1978 to 1988, small business accounted for 83% of net employment gains or 268 000 net new jobs.

According to a recent survey of small business owners, issues of concern to the small business sector include: total tax burden, government regulation and paper work, shortages of qualified labour, workers' compensation boards, cost of municipal government, availability of financing, and provincial labour laws. Small business confidence in the state of the economy is deteriorating and capital spending plans and operating plans are being adjusted accordingly. Staff cutbacks are expected, although shortages of qualified labour are of particular and growing concern to businesses in British Columbia and in the northern regions. Of overall concern, however, is business survival. Of the 108 067 private sector firms started in Canada in 1984, for example, 16% disappeared in the first year of operation, while 15% were no longer registered by the second year, and an additional 12% were gone after the third year of operation. These changes do not necessarily reflect bankruptcies, although small businesses are more likely to suffer losses during a downturn, including losing employment share.

d. Emerging Industries

A recent analysis of North American economies reveals four sectors that will dominate the industrial growth in the 1990's. The four engines include: computers and semiconductors, instrumentation, health care and medical technology, and communications and telecommunications. These new growth industries are knowledge-based and use less capital than mass production manufacturing but are far more research and development intensive.

Figure 6

The Four Engines of the 1990's

Computers/ Semiconductors	Instrumentation	Health Care Medical	Communications Telecommunications
Computer Equipment	Process Control	Medical care	Telecommunications service
Semiconductors	Industrial controls	Surgical instruments	Telephone equipment
Electronic Components	Optical Instruments	Surgical appliances	Radio/Microwave
Software	Engineering/Scientific	XRay/electromagnetic	Entertainment
Information Services	Electricity Measurement	Biological products	Aircraft equipment
	Measuring/Control Devices	Medicine and Drugs	Guided missiles/space equip
	Environmental Monitoring		

(Source: Nuala Beck and Associates. Globe and Mail. "Tilting at smokestakes". 1991.)

C. The B.C. Economy

How does the B.C. economy compare to the rest of Canada?

1. Outlook

While B.C. enjoyed considerable growth during 1986 to 1989, the economy has slowed down considerably in the last two years. The current recession is less serious than that of the early 1980's, largely due to diversification in export markets. Not as many countries are facing a downturn as in 1981—1982. The B.C. economy is predicted to be down, in terms of total real output, by 0.5% over the 1990 figure of 2.0% growth. Growth in 1992 should average 1.5% to 2.0% as the economy returns to an expansionary phase of the business cycle. Over the 1993—1995 period, the B.C. economy is expected to grow at an average annual rate of 3.3% -the same rate of growth as the Canadian economy.

Figure 7

Provincial Outlook Summary
1991

Indicators	1989	1990	1991(f)	1992(f)
Real GDP(% Change)				
U.S.	2.5	0.9	-0.3	2.3
Japan	4.7	5.6	3.4	3.9
Germany	3.9	4.6	2.5	2.0
U.K.	1.9	1.1	-1.0	2.1
Canada	3.1	0.9	-1.1	2.5
B.C.	4.2	2.1	0.5	1.5
Inflation				
Canada	5.0	4.8	5.9	4.5
B.C.	4.5	5.5	5.5	4.7
Prime Rate				
Canada	13.50	12.75	10.00	10.50
Population				
B.C.(% Change)	2.3	2.6	2.0	1.9
B.C.(over 15 years)	-	2 429 000	2 493 000	-
Labour Force (000)				
B.C.	-	1 651	1 678	-
Employed (000)				
B.C.	-	1 515	1 521	-

Figure 7 cont.

Provincial Outlook Summary
1991

Indicators	1989	1990	1991(f)	1992(f)
Employment (% Change)				
B.C.	5.7	2.4	1.0	2.0
Unemployment Rate				
Canada	7.5	8.1	10.3	9.9
B.C.	9.1	8.3	9.9—10.2	9.5—10.7
Participation Rate (%)				
B.C.	-	68.0	67.3	-
Avg. Weekly Wage and Salary (% Change)				
B.C.	5.4	4.9	5.5	5.3
Housing Starts				
U.S. (millions)	1.39	1.21	1.15	1.25
Canada (thousands)	216	180	140	175
B.C. (unit)	38 894	36 720	25 000	32 000
Capital Spending				
B.C.	23.8	11.2	5.5	7.0
Retail Sales				
B.C.	10.2	6.9	6.0	8.0

(f) Forecast

(Source: Economics Department of B.C. Central Credit Union. 1991.
Employment and Immigration Canada. 1991.
Ministry of Finance and Corporate Relations. *Economic Review.* May 1991.)

2. Demographics and Employment

A major factor driving the B.C. economy over the next few years will be population growth and demographic change. Currently, the province contains over 3.1 million people, accounting for 11.8% of the total national population. Total net in-migration was 64 236 individuals in 1990. Of this, 64% was due to interprovincial migration and the remaining 36% was international migration. Provincial migration is expected to grow by 2.0% in 1991 and by 1.9% in 1992. By 2005, 4.0 million people are expected to reside in B.C. Vancouver, Victoria, and Kelowna are expected to face above-average increases in the number of residents. The latter two areas can expect an increase in older residents in particular. B.C. already has 11.5% more seniors, on average, than the rest of Canada. By 2001, this will increase to 16.5%.

Despite an increase in the number of jobs created in the province, recent growth in the labour force (over 3% in 1990) has resulted in a rise in unemployment figures. Since 1988, however, total employment in the province has increased by 10%, as compared to less than 1% for all of Canada. In the same period, the growth rate of the provincial population has increased almost twice as fast as the national rate: 9.7% versus 5.3% nationally. Services now account for two-thirds of provincial output and 75% of all jobs. In the past year 7 000 jobs have been lost in the goods-producing sector but 36 000 jobs have been created in the service sector. The traditional resource sector, however, still provides indirect job support for services. Employment is expected to grow at an average annual rate of 2.3%, or by an average of 35 000 jobs per year over the period 1992 to 1995. Unemployment, however, will remain high as the economy adjusts to the growing labour force.

In terms of labour, B.C enjoyed fairly strong employment growth in 1990 with over 34 000 new jobs added during the year. In 1991, less than half this number, or about 15 000 new jobs, will be created in the province. The vast majority of new employment has been and will continue to be created within the service sector. In 1990, for example, employment rose by 2.4% due to a 3.7% increase in jobs in the service sector and a 1.7% decline in the goods-producing sector. The major industries in the province, by employment, are as follows:

Figure 8

Direct Employment by Industry in B.C.
1980 and 1990
(Thousands of Persons)

Industry	1980	1990
PRIMARY		
Agriculture	22	27
Forestry	29	23
Fishing	5	7
Mining	20	16
	81	73
MANUFACTURING		
Food and Beverage	20	18
Wood Products	57	47
Paper and Allied	22	18
Printing	11	15
Metal Fabricating	24	21
Transportation Equipment	9	9
Other	29	44
	178	172
CONSTRUCTION	80	106
TRANSPORTATION/COMMUNICATION	118	128
TRADE	227	281
FINANCE	74	90
SERVICE	372	538
PUBLIC ADMINSTRATION	82	82
OTHER	46	46
TOTAL EMPLOYMENT*	1259	1515

(Source: Statistics Canada. B.C. Central Credit Union. *Economic Analysis of B.C.* 1991.)

*Employment figures may vary according to occupational and industry definitions used.

3. Trade

The province still relies on its natural resource base for exports and has consistently failed to diversify the products it exports. In 1989, 9% of B.C.'s output was sold to the rest of Canada and 28% was exported. B.C. is making some progress in diversifying its customer base, however. Increasing emphasis is being placed on sales to the Pacific Rim (33% in 1985 compared to 39% in 1989) rather than to the U.S. (53% in 1985 versus 43% in 1989). Two thirds of these exports, however, came from only 5 commodities: pulp, coal, copper, newsprint, and softwood lumber. Over 30% of jobs in the province depend on outside markets. Foreign sales are responsible for 23% of employment and sales to other provinces support another 9% of jobs.

Although generally had exports been increasing, over the past two years they have begun to slowly decline. The outlook for the next year will depend on the recovery of B.C.'s two major trading partners, whose economies are predicted to improve over 1992.

D. Provincial Industries and Industrial Development

What developments will shape our local industries?

1. Forestry

The forest products industry depends on 27.7 million hectares of land covering 29.4% of the province's land area. B.C. has over half of Canada's inventory of softwood timber and 7.1% of the world's total. The inventory of standing timber is 8.59 billion cubic metres. The annual allowable cut is 76 cubic metres. The predominant species harvested include Lodgepole pine (25%), Spruce (19.5%), Hemlock (17.6%), True Firs (13.7%), and Douglas Fir (10.1%). In terms of production, logs are converted into a range of wood, and pulp and paper products. Commodities include: lumber, plywood, shakes and shingles, market pulp, and newsprint. Value added production is growing. Log exports now account for only 2.8% of the total harvest.

The industry employs approximately 85 000 workers among 145 firms in B.C. Excluding the top companies (MacMillan Bloedel, Fletcher Challenge, Canfor, Doman, West Fraser, Northwood, Eurocan, Interfor) an average of 40 workers are employed in each company. The largest areas of employment include lumber (28 100), contract logging (15 700), company logging (9 600), market pulp (8 100), and secondary manufacturing (7 400). Layoffs affected 8 000 workers in 1990.

Overall, the industry contributes 9.5% of the total gross domestic product. Including indirect manufacturing and other effects, the industry supports 20% to 25% of the total GDP. The forest products industry also accounts for over 50% of total provincial exports.

The forestry industry is still in a recession which should last past the end of 1991. Prices for most commodities are under pressure as housing starts remain at low levels, excess capacity is present, inventories are high, and the high Canadian dollar affect sales. The downturn is not as serious as the one during the 1981 recession, as the industry is in better financial shape. Firms have the flexibility to curtail production, and productivity is up due to consolidation and rationalization. Profits in the largest B.C. forest product companies were still sharply eroded in 1990.

Lumber production fell by 7% in 1990 and is forecasted to fall a further 5% in 1991. There is a glut of newsprint and output is expected to fall by 1% in 1990 and 1991. Northern softwood bleach kraft pulp will likely drop by 5% to 7% in 1991, following a decline of 10% in 1990.

Another problem plaguing the forestry industry includes the lack of workplace literacy skills. A recent study commissioned by the IWA Canada and the Council of Forest Industries of B.C. found that 56% of sawmill workers have difficulty understanding workplace literature at the Grade 4 level. Only 26% of workers understand material at the Grade 12 level.

2. Mining

The mining industry in B.C. accounts for $3 billion in revenues per year or 3% of the gross provincial product. It is the economic mainstay of many regional communities especially in the Kootenays (coal), Northeast (coal), Thompson-Okanagan (copper), and Northeast and North Coast regions (precious metals). Approximately 58 000 people are employed in the industry. The six largest mines in the Province account for 7 000 employees. These include: Westar Mining, Denison Mines, Cominco/Lornex, Fording Coal, Westmin Resources, BHP-Utah Mines. Coal operators employ close to half of the 11 500 workers in the mines. Coal accounts for 32% of industry revenues. Copper represents 30% of total revenues. Precious metals, gold, and silver account for 11% of revenues while lead, zinc, and molybdenum account for close to 13%. Asbestos accounts for 2% of revenues. Industrial minerals, as well as structural material represent, the remainder.

The mining industry has been experiencing low metal prices and weak demand. Threats for the industry include environmental concerns, the high Canadian dollar, competition with low wage countries, high interest charges, native land claims, and dwindling copper reserves. Over the long term, however, the industry should remain stable as there is little over-capacity, and base metal exploration will continue. B.C also has substantial undeveloped coal and metal reserves.

3. Manufacturing

B.C. manufacturing industries are primarily resource-based with an emphasis on forest products, refined nonferrous metals, fisheries products, processed agricultural products, and petroleum products. Total manufacturing accounts for 14% of provincial GDP. This group alone accounts for approximately 9.6%. Emerging secondary manufacturing activities include: fabricated metal products, electrical and electronic products, plastic products, machinery and equipment, and non-metallic mineral and chemical products. Production within these areas has experienced annual growth rates of over 10%. Other areas of increasing importance include consumer-oriented products, publishing and commercial printing, and sound recording. The majority of firms in B.C. employ under 24 workers. Of the 70 000 individuals employed in the manufacturing industries, 23% work in metal fabrication. Food and beverage accounts for 20% of employment, while wood and furniture manufacturing make up over 10% of the total. Machinery, apparel and textiles, and electronics account for 7.5% each.

Employment in the manufacturing sector totals approximately 167 000 workers, or 11.3% of the B.C. labour force. A recent survey of B.C. manufacturers revealed that there is high demand for three key groups: apprentices (6 000), journeymen (4 600) and technologists (3 200). The computer software industry expects to experience the greatest growth and corresponding need for qualified workers. Much of this demand is for machinists, sales and marketing personnel, computer programmers, management personnel, engineers, and people skilled in expert systems, CNC, and CADD. Almost 75% of manufacturers encounter difficulties in recruiting skilled personnel. More than 50% of manufacturers also feel their training needs are not adequately met due to the high cost of formal training, inability to release workers during work hours, and lack of in-house training personnel.

4. Health

While typically classified as an area of government expenditures rather than as an industry, due to changing demographics, health care is becoming a significant area of employment and income for B.C. labour. The provincial government spent $1.9 billion on hospital programs in 1988/89. The Medical Services plan paid out over $1 billion to physicians and surgeons, and other health care providers. Expenditures for the Pharmacare Program totalled $185 million while Community and Family Health Care accounted for $264 million worth of expenditures. Expenditures on Alcohol and Drug Programs, Emergency Health Services, and Vital Statistics totalled over $100 million in 1988/89.

Employment is distributed among the hospital sector, health care offices (doctor, dentist, and paramedical practitioners), nursing homes and group homes. Nursing and home welfare organizations in Canada grew by 30% between 1981 to 1986. Hospital's share of the health and welfare labour force grew at a minimal rate of 4% or 50% of personnel. Physicians' offices remained fairly constant at 8% of total personnel while dentists' offices grew from 3% to 4.5% of personnel. Nursing homes stayed constant, while group homes showed some growth.

Factors affecting the health care systems include:

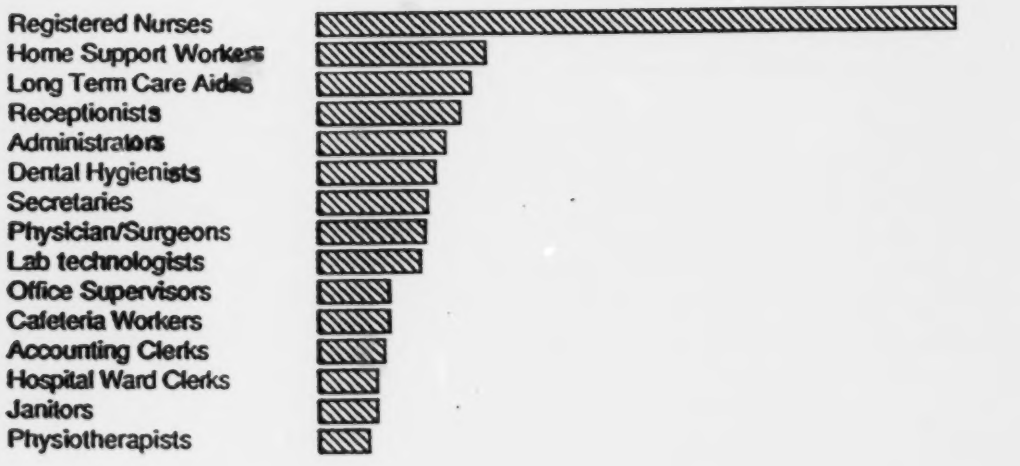
- Increasing number of acutely ill patients discharged to long term care facilities, but decreasing number of acute care beds.
- New technologies are saving more individuals who would not have survived previously.
- Aging of the population.
- Government policy that emphasizes treatment rather than prevention.
- Use of technologies which increase the need for staff.

There are a number of new positions being created by these forces. These include: Case managers, community health officers, community support workers, computer applications specialists, computer programmers, database managers, ethics consultants, footwear specialists, funding co-ordinators, health and policy analysts, laser and lithotripsy technicians, magnetic resonance technologists, mammography technologists, molecular genetics technologists, palliative care counsellors, physics personnel, prosthetic device specialists, transplantation personnel, and volunteer co-ordinators.

Currently there are a number of occupations experiencing acute shortages. These include: registered nurses, respiratory technologists, emergency paramedics, occupational therapists, physiotherapists, speech therapists, and visiting homemakers. In B.C, projected job openings are illustrated in the following table.

Figure 9

Top 15 Jobs in Health Care
Number of Projected Openings in B.C.
1991—2001



(Source: Employment and Immigration Canada. *Occupational Outlook on Health Care*. Fall 1991.)

5. Construction

The construction industry is composed of numerous small locally owned and operated firms. Approximately 65% of all construction expenditures relate to residential construction, 25% to commercial construction and 10% to industrial and institutional construction. Building construction and renovation, and engineering construction contribute 11% to the provincial GDP. Residential construction comprises 5% of the GDP and creates 10.3 person years of employment for every $1 million spent. In 1989, there were 90 000 construction workers, which comprised 6% of the B.C. labour force.

Forecasts suggest that because of basic demographics as well as a surplus of office space, both the residential and commercial markets will stagnate. Vancouver, for example, currently has the highest level of office vacancy in five years.

6. Fisheries and Aquaculture

There were 20 613 valid commercial fishing licences issued in British Columbia in 1988. Approximately 210 fish processing companies with 228 plants also operate in the province. In 1989, the fish processing sector generated revenue of $820 from sales. The majority of fish caught and processed in B.C are sold to export markets. Fish product exports sales in 1990 reached approximately $650 million.

Aquaculture accounts for close to $92 million for 13 500 tonnes of cultivated marine products. Large firms dominate with nine firms accounting for 75% of production. The number of companies operating in the province totals 120.

At the height of the fishing season, over 28 000 full and part time jobs are created in fish harvesting, fish processing, and sport fishing in B.C. Including aquaculture, this figure rises to almost 30 000. The fishing industry also generates 15 000 direct person years of employment.

7. Agriculture

Agriculture is not highly ranked in terms of its contribution to the provincial GDP. However, at the consumer level, agriculture is the third largest goods-producing sector in B.C. Farm cash receipts from all agricultural activities exceeded $1 billion in 1990. Two-thirds of B.C. consumer needs are satisfied by provincial output Major contributors to farm receipts include: dairy, beef, hens and chickens, floriculture, eggs, calves, nurseries, hogs, apples, and mushrooms. Direct employment at the farm level is not high. Livestock workers, for example, number 3 880, while nursery workers total 12 610. However, processing industries contribute 210 000 to provincial employment. Agricultural retailing alone employs 23 000 individuals.

8. Transportation

Transport industries include air, marine, rail, and truck transportation systems. There are approximately 110 licensed air carriers based in B.C. Facilities include over 200 land-based airports, 63 water-based facilities and 20 heliports. The province has 8 year-round deep-sea ports, 7 500 kilometres of mainline rail track, and 47 060 kilometres of provincial roads.

Over 56 000 people work in one of the four transportation sectors in the province. Truck transport employs 21 400 people, rail transport employs 7 900 individuals, while the marine and air transport sectors employ 12 100 and 14 800 respectively. Net declines in almost all transportation related occupations have been recorded recently. Within the trucking industry, however, there will be a shortage of skilled truck drivers. In the marine sector, ships deck officers will be in short supply. Three occupations are actually disappearing from the marine transport industry: ship's carpenter, boatswain, and ship's electrician. Within the air sector, air traffic controllers are facing shortages due to the large number of retirees and the length of time it takes to train new workers. A shortage of skilled sheet metal workers, avionic technicians, aircraft mechanics, Non Destructive Testing (NDT) technicians, interior refurbishers, and structures technicians is also a critical problem across Canada. Sufficient numbers of entry level workers who possess solid basic skills are also hard to find.

9. Science and Technology

The high technology sector encompasses a number of areas including: communications, software, space and aerospace, biotechnology, environmental technology, and technical applications within forestry, energy, sub-sea, medical and agri-food sectors. Information technology is a subset of this category and includes electronics, communications technology, and computer hardware and software. There are 600 companies in the province involved in information technology. These represent 12 000 employees and gross revenues of $1.6 billion. Forecasts for the industry predict a temporary slowdown due to the current recession. Industry pressures include less product development and a shorter life cycle, rising quality standards, and globalization of markets. Difficulties also include a shortage of qualified personnel and a shortfall in experienced management and marketing expertise.

Demand for technology-related occupations may be broken down into four categories: computer jobs, engineering jobs, skilled trades occupations, and jobs in science. A recent survey of high-tech firms in B.C. found that 50% faced difficulties recruiting professional and technical staff, 37% in hiring computer specialists and 57% in hiring skilled tradespeople.

In B.C. there are about 10 600 computer programmers and systems analysts employed with another 5 800 jobs expected by the year 2000. There are approximately 14 000 computer operators and data entry workers employed with another 8 600 jobs expected over the next ten years. Engineering jobs are forecasted to increase by 45% over the next ten years while supply will only fill 8% of the need. In the skilled trades area, jobs expecting the greatest growth levels include machinists and electronic equipment installers and repairers. There are an estimated 4 200 machinists in B.C. with 1 930 job openings expected by 2001. Electronic equipment installers and repairers total 2 400 in the province with another 1 240 job openings appearing over the next ten years. Most new jobs in the high-tech sector will be in industry. Scientists, however, will be required for research purposes. Projected job openings between 1991 and 2001 are highest for foresters and silviculturists (900), biologists (730), agriculturalists (480), chemists (180), mathematicians (150), geologists (140), meteorologists (80), and physicists (35).

10. Tourism

The tourism industry in B.C. consists of over 10 000 businesses and public agencies. There are eight different tourism sectors comprising accommodation, food and beverage, adventure tourism and recreation, transportation, travel trade, events and conferences, attractions, and tourism services. The tourism industry generated $3.97 billion in revenue in 1989, or 5% of the gross provincial product. Visitors to and within the province originate from four major markets: British Columbia (48% of visitors), other parts of Canada (25%), the United States (22%) and overseas (5%). Tourism is estimated to generate around 500 000 jobs in the metro area and another 250 000 in the rest of the province.

Tourism has grown steadily since 1985, although tourism figures for Vancouver, for example, show visitor numbers down 15% from 1990. Causes include the introduction of the GST, increase in airfares due to higher fuel costs, and the current recession. New tourism markets include adventure and seniors travel. However, the fragmentation of the industry, decrease in international marketing, increased competition, lack of significant draws, and shortages of qualified staff may hamper the industry.

In B.C., for example, shortages of qualified workers include many positions within the hospitality sector. There are severe shortages of fully qualified chefs, head cooks and specialty chefs, for example. Employment projections for these groups, and others in the tourism industry, show above average growth rates. Because of the size of the industry (87 500 direct jobs in B.C.) there are many employment opportunities in many sectors, as illustrated below. A substantial number of positions in management and supervision are available. These professional management skills have been identified as those which are lacking in the hospitality industry.

Figure 10

B.C. Employment Trends and Projections - Select Tourism Industry Occupations

Occupation	Number Employed	Job Openings 87—95	Annual Growth 87—95	Growth	Attrition
Supervisor Food and Beverage Prep	6 789	7 670	881	1 119	1.6%
Chefs and Cooks	20 730	23 492	2 762	3 432	1.6%
Bartenders	4 311	4 833	522	657	1.4%
Food & Bev Serving	28 984	34 435	5 451	4 200	1.6%
Supervisors:Lodging	2 275	3 769	1 494	1 989	2.1%
Hotel Clerks	2 330	2 640	300	920	1.5%
Travel Clerks	4 340	4 640	300	760	0.8%
Services Management	7 988	9 055	1 067	2 390	1.6%

(Source: Employment and Immigration Canada. *Job Futures, B.C. An Occupational Outlook.* 1989.)

E. Workplace Developments

What developments will be shaping the workforce of the 1990's?

- Flattening of the Organization

  As a result of increasing competition, organizations are searching out ways to cut costs while remaining productive. Internally, many companies are becoming "flatter" by removing layers of management. The elimination of middle management has caused decision-making to be pushed to lower levels within an organization. Empowerment gives a greater amount of authority and responsibility to those individuals.

- Re-engineering of the Workplace

  In the face of increasing competitive pressures, companies have begun to change the way they operate. Senior management, insisting on large gains in productivity, increasingly looks to changing the entire structure of an organization and to changing manufacturing, sales, administrative, and other operating procedures.

- Technological Change

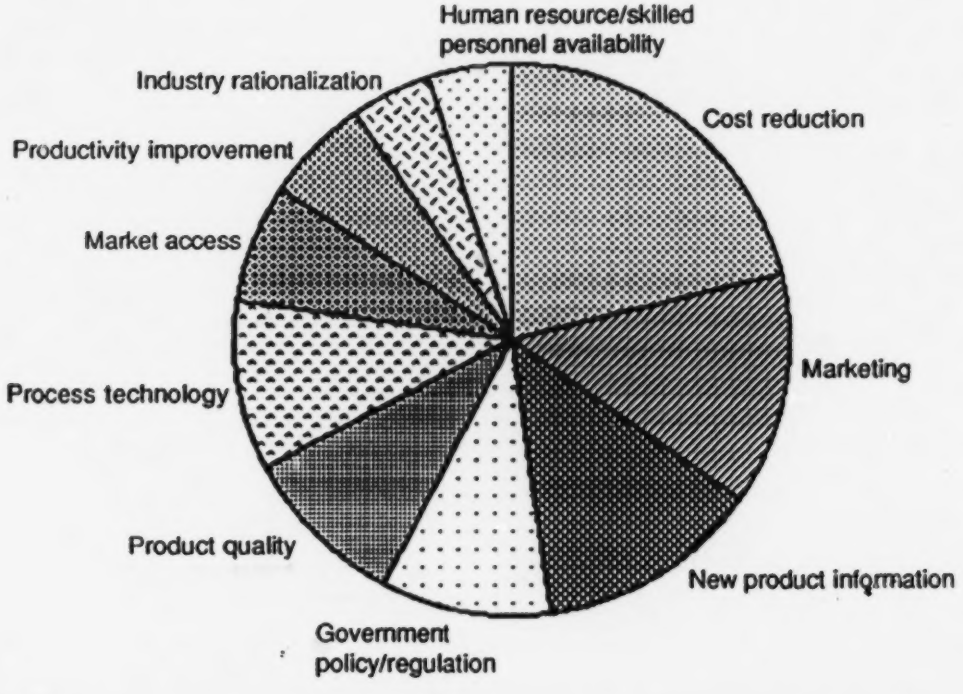
  Information technology has the ability to link both internal and external groups. Instantaneous communication is possible between customers, vendors, and distributors as well as between functions within an organization. Rapid changes, therefore, tend to affect everyone within the work environment. In the near future, the enabling effect of technology will encourage self management, as access to information will be universal within an organization. Corporate cohesion and the speed of decision making will increase as middle managers become leaders and senior managers become strategists and visionaries. The use of high-order information technology systems, therefore, will act as a catalyst to decide who will succeed and who will fail in the global marketplace. These new technologies include: more powerful desktop workstations, fibre optics for improved telecommunications, optical disk storage, voice recognition systems, improved graphic display terminals, video compression, image processing, executive information systems, and relational data bases.

- Competition

As Canada now ranks fifth in terms of its competitiveness among twenty-four industrialized nations, global rivalry has become a serious issue. In a study of 200 large Canadian organizations, business leaders listed nine factors as major influences on their ability to compete. These include legislative requirements, integration of technological change, technical skills shortages, and global economies. Another study of Canadian and U.S. manaufacturers suggested that factors such as cost reduction and marketing were of utmost concern.

Figure 11

Maintaining the Competitive Edge: Relative Critical Factors



(Source: A.T. Kinney Inc. Globe and Mail. "Business spending on training said vital". 1980.)

- Career Changes

The average worker in the 1990's will hold four to six jobs in two to three different career areas. The typical post secondary graduate will likely have at least ten jobs before retiring.

- Leisure

  With restructuring, global competition, and change as the only constants, the demands place on employees, especially management, have never been greater. The result is that many workers are turning to leisure time to decrease job stress and increase job satisfaction. In North American companies individuals are reassessing true values and priorities, often opting for decreased work days and jobs with more flexible schedules. Non-traditional employment, therefore, will become a significant trend in the 1990's.

- Subcontracting, Outsourcing and Partnerships

  Organizations are looking for partners to help drive efficiency and effectiveness. Rather than rely on internal resources, successful companies now attempt to network suppliers in order to enlist the best providers of service at the lowest cost. The use of outside consultants, computing specialists accountants, and other professionals eliminates the need for costly internal departments which may not have the necessary skills.

- Leadership

  Rather than the use of old management practices, the new work environment demands co-operation and coaching rather than direct supervision. Empowering workers means the emphasis has changed from management to self-responsibility. The success of a company depends on everyone. Those most affected by decisions are often in the best position to make and implement decisions. Therefore, decisions must be made with the combined help of managers and the input of workers.

F. Occupations and Demand

Which jobs will face increasing or decreasing demand in the near future?

1. Jobs in Demand

"Workforce 2000", a recent study by Towers Perrin in conjunction with the Hudson Institute of Canada, reported that 60% of companies are experiencing labour shortages. Employers are having difficulty recruiting skilled supervisory, management and professional employees as well as technical staff. The Immigration Department in response to industry demands, now gives preference to immigrants whose job skills are required. Chefs, nurses, dental hygienists, therapists, tool and die makers, electronic and aerospace engineers, aircraft mechanics and computer programmers are favored. Additional personnel will be required in other job categories in the near future, these include:

a. Health Care Providers

Demographics show that the aging population will put increasing pressure on the health care system. Demand will grow for physical therapists, medical records specialists, nurses, radiologists, occupational therapists, respiratory therapists, recreational therapists, cardiac catheter personnel, chiropodists, genetic counsellors, imaging department staff, nuclear medicine technologists, respiratory technologists, perinatologists, radiation technologists, radiopharmacists, dieticians and home support workers and any other occupational group that treats the ailments of the elderly.

b. Engineers, Technicians, and Technologists

Currently, due to a downturn in construction and mining efforts, civil engineers are facing layoffs. However, cities developed over the last century, will find that their infrastructures are deteriorating and that they are inadequate for the increasing population. Engineers will be needed to rebuild roads, hospitals, and other structures, and replace them with expanded systems and modern buildings. Engineers with knowledge of the environment, advanced electronics, and computer technologies will be in demand. Overall, the Canadian Engineering Manpower Board forecasts a shortage of 50 000 by the year 2000. The Information Technology Association of Canada predicts a shortage of over 45 000 engineers and scientific and technical personnel. Process technologists will be in great demand due to the need for their knowledge of efficient production methods.

c. Environmental Experts

The trend toward environmental concerns has created a dramatic increase in the demand for those individuals who can work with the environment to lessen destructive industrial practices. The increase in the number of environmental regulations set by the government will also boost the demand for environmental specialists to help them comply with new ordinances. Air, water and soil analysts, chemists, toxicologists, chemical and civil engineers, and geologists specializing in environmental studies will be in great demand.

d. International Marketers

The development of a global marketplace and increasing levels of competition within that marketplace has created demand for individuals who can increase the export levels of Canadian products.

e. Adult Educators

The training and retraining of the workforce will become more and more critical as Canada attempts to remain competitive. Training will become a constant process and those able to train will be in demand.

f. Computer Professionals

As information technologies become increasingly important in making the workplace more productive, those individuals adept at keeping up with changes in technology will be in demand. Jobs include systems analysts and software engineers. Those capable of managing information technology, such as chief information officers, will be also be required.

g. Scientists

Developments in such areas as biotechnology will fuel demand for skilled scientists, geneticists, microbiologists, chemical and bioprocessing engineers, and chemists. A shortage is developing for lab technicians.

h. Service Workers

While retailing is currently in a decline, employment in resale and wholesale trade will rise dramatically. Grocery and department stores, for example, will require highly trained clerks, managers, and buyers. Many of the new retail jobs will be in the restaurant industry.

i. Financial Officers

In the financial services area, numerous openings exist for audit managers, consumer and commercial loan officers, branch managers, financial analysts, controllers, credit analysts, computer programmers, data processors and systems analysts. Especially important in the banking industry are employees with exceptional customer service ability.

These growth areas all have a number of factors in common. They rely on workers with significant skill levels, and their demand fluctuates on such factors as demographic, changes in technology, and economic restructuring.

Figure 12

The Ten Fastest Growing Jobs in the 1990's
(In order of rate of growth)

Respiratory Therapist
Systems Analyst
Child Care Worker
Electronic Data Processing Equipment Operator
Dental Hygienist
Chef/Cook
Speech Therapist
Physiotherapist
Optometrist

(Source: Employment and Immigration figures compiled by Report on Business, Brave New Work.1991.)

It should be cautioned that the "top" jobs vary according to the growth rate, size, or gross change within the occupational group. This may be demonstrated through the following tables compiled from Employment and Immigration Canada's Canadian Occupational Projection System (COPS).

Figure 13

Top 25 Jobs in B.C.
Employment Growth by Occupation

Occupation	Compound Growth Rate 1990 - 1995
Textile Preparation	10.01%
Video Operator	9.15%
Choreographers & Dancers	9.07%
Music Composers	8.28%
Guides	7.03%
Inspecting Electrical Equipment	6.37%
Performing Arts - Production	6.37%
Admin - Medicine	6.25%
Ore Treating - Various	6.21%
Referees	6.02%
Paving & Surfacing	5.65%
Performing Arts - Various	5.59%
Roasting Chemicals	5.51%
Lawyers & Notaries	5.35%
Occupations in Sports - Various	5.23%
Sales Occupations - Various	4.93%
Textile Finishing	4.84%
Attendants Sports	4.74%
Osteo and Chiropractors	4.70%
Agricultural Engineer	4.69%
Systems Analyst	4.65%
Health - Various	4.56%
Inspecting Machines - Various	4.56%
Dental Hygienists	4.47%
Medical Occupations - Various	4.46%

(Source: Ministry of Advanced Education Training and Technology. *COPS Demand Model Data.* 1991.)

Figure 14

Top 25 Jobs in B.C.
Employment by Occupation Size and Change

Occupation	Size of Occupational Group 1995	Gross Change 1990—1995
Salespersons	113 747	18 290
Bookkeepers	52 749	9 158
Secretaries	48 040	9 083
Food /Bev Service	44 063	6 683
Sales Managers	42 234	10 721
Cashiers & Tellers	39 822	7 730
Nurses	35 494	9 339
Chefs and Cooks	31 416	7 266
Management - Other	28 862	8 925
Janitors	24 219	4 426
Elementary /Kind Teachers	24 086	3 410
General Manager	19 808	5 716
Receptionists	19 165	4 831
Carpenters	18 116	1 797
General Office Clerks	17 059	2 398
Equipment Operators	16 498	4 181
Welfare, Community Service	16 043	3 985
Industrial Mechanics	16 033	2 099
Auto Mechanics	15 394	415
Secondary Teachers	15 102	1 555
Sales Supervisors	15 022	1 712
Hairdressers	14 204	3 318
Child Care	14 099	3 498
Real Estate Sales	13 470	3 108
Nursery Farm Workers	12 843	1 963

(Source: Ministry of Advanced Education Training and Technology. *COPS Demand Model Data*. 1991.)

2. Low/No-Growth Jobs

Essentially, the occupations that will face declines within the near future include those requiring low skills. This is especially true for jobs within natural resource based occupations. The introduction of technological change is also causing jobs to be phased out as demonstrated in the following tables.

Figure 15

The Ten Jobs in Fastest Decline in the 1990's
(In order of rate of growth)

Tobacco Processor
Typist
Weaver
Fisherman
Sewing Machine Operator
Hospital Orderly
Statistical Clerk
Office Machine Operator
Farmer
Radio and TV Repairmen

(Source: Employment and Immigration figures compiled by Report on Business, Brave New Work.)

Other factors such as the economic shift towards services, new competitive pressures, the aging of the population, and automation also cause changes in occupational growth.

Figure 16

Worst 15 Job Prospects in B.C.
Employment by Occupation and Growth Rate

Occupation	Compound Growth Rate 1990 - 1995
Architects - Various	-12.16%
Typists	-8.88%
Air Transport Forepersons	-8.06%
Funeral Directors	-7.84%
Sugar Processors	-6.69%
Supervisors - Furnishing	-6.41%
Fruit & Vegetable Canners	-6.32%
Chemicals Coating Workers	-5.59%
Glass Processing Forepersons	-5.52%
Rubber and Plastics Forepersons	-4.87%
Fishing Occupations	-4.85%
Machine Tool Operators	-4.29%
Projectionists	-4.10%
Farmers	-3.99%
Telephone Operators	-3.92%

(Source: Ministry of Advanced Education Training and Technology. *COPS Demand Model Data*. 1991.)

G. Critical Skills

What sort of job skills should one invest in as an employer or employee?

According to the Canadian Manufacturers' Association, multi-skilled workers who can adapt to new tasks and technologies as well as contribute to product and manufacturing design are the required workers now and for the future. Business leaders and educators agree the key to success is basic skills in literacy, mathematics, and communications, coupled with a working knowledge of the principles of business and technology. Even though the labour market will be tightening, workers must have the flexibility, basic communications, technical, and literacy skills, international outlook, and the ability to learn, in order to increase job security and help businesses compete.

Skills including computer literacy, communication skills, analytic skills, and flexibility will be combined to form necessary workplace literacy or basic skills. According to Statistics Canada, 16% of Canadians have reading skills too limited to allow them to deal with the majority of written material encountered in everyday life. Another 22% can't cope with complex instructions. These facts become important when one considers that blue collar workers are required to read almost 100 minutes per day, while retail workers read close to three hours per day.

The Canadian Task force on Literacy sets illiteracy's annual cost to business at $4.2 billion. This includes such hidden costs as the extra supervision required and lost productivity ($2.6 billion), and higher levels of workplace accidents (1.6 billion). In fact, the Conference Board of Canada estimated that 70% of businesses have a significant problem with functional literacy but only 24% of companies have programs to deal with these issues. The May 1991 Speech from the Throne listed cutting illiteracy by 50% by the year 2000.

In the United States, the Secretary's Commission on Achieving Necessary Skills (SCANS) concluded that competency in five areas are necessary for those entering the labour force. These are:

- The allocation of resources such as time, money, materials, space, and staff.
- Interpersonal skills, such as working on teams, teaching others, serving customers, and negotiating and working well with people from culturally diverse backgrounds.
- Acquiring, evaluating, and using information.
- Understanding social, organizational, and technological systems, and monitoring and correcting performances.
- Selecting equipment and tools, and applying technology to specific tasks.

In Canada, employers such as AGT have begun to outline the ideal employee of the future. These characteristics are detailed in the following table.

Figure 17

Future Employee Traits
(AGT - Alberta)

Life-Long Learning	High Tolerance for Stress/Ambiguity
Team Player	Strong Communication Skills
Computer Skills	Mobile - Will Relocate
Flexible/Adapt to Change	Customer Focus
Multi-Functional	Highly Productive
Generalist vs Specialist	Well Educated
In-depth Knowledge of Business	Technically Proficient
Risk-Taker	Intra/Entrepreneurial
Empowered	Self-Motivated
- Takes Responsibility	
- Innovative	
- Future Oriented	
- Proactive	

(Source: Employment and Immigration Canada. *Economic Review*. January 1991.)

At higher levels, the same principles apply. Knowledge of foreign languages and international experience will be an asset in additional to literacy and communication skills. As computer technology eliminates some jobs and creates others, computer literacy is crucial and extends into the use of technology as an analytical tool. In general, a well-rounded individual will fare better than counterparts in industry with very specific skills. Knowledge of science, economics, and international business for example, is an asset in any job. Leadership capabilities, especially in light of the move towards rationalization, and reorganization, are crucial. Employers recognize which characteristics define a successful manager as demonstrated in the following table.

Figure 18

Successful Future Manager
(AGT - Alberta)

Interpersonal	Managing Diversity
- Openness/Integrity/Sincere	- Recognizing &Valuing Differences
- Two-Way Communication	- Conflict Negotiations
- Facilitation/Coaching/Consulting	- Flexible/Adapt to Change
- Effective Feedback	Business Sense
Team Building & H.R.. Management	- Changing Business Knowledge
- Communicate/Vision	- Initiative
- Setting Developmental Climate & Staff Training	- Risk-Taking
	- Creative
- Confronting Problem Subordinates	- Strategic/Forecasting
- Conflict Resolution	- Customer Focus
- Planning/Forecasting	

(Source: Employment and Immigration Canada. *Economic Review*. January 1991.)

H. Skills Shortages

Will the necessary skilled labour be available?

1. Comparison of Canadian Workers

Canada will continue to fall short in providing the kind of workforce needed for international competitiveness due, in part, to the lack of education workers possess. According to Statistics Canada, slightly fewer than half of the new jobs being created require a grade 12 education or more. By the year 2000, two-thirds of all jobs will require this level of education. However, current drop-out rates average 31% in Canada. In the United States the figure is 25%. In Germany 14% and in Japan only 2% of students leave school before grade 12.

While the Canadian government spends more per capita on education than almost any other industrialized country (7.4% of GDP), the quantity and quality of education received in Canadian schools is also in question Canadians spend over 7% of GNP on education as compared to the Japanese who spend 5% and the British who spend approximately 5.5% of GNP. In terms of the education received, however, Canadian students receive only 185 days of education compared to Japanese students who receive 243 days and British students who receive 200 days of education each year. A standard science exam administered to students in seventeen countries placed Canada twelth, behind Hong Kong, Korea and Japan. It is also estimated that 15% of high school graduates are functionally illiterate.

2. Dealing With Forecasted Shortages

Even though the recent recession has caused layoffs, most organizations are concerned about shrinking entry-level labour pool and many are experiencing difficulties in hiring qualified labour. According to the *Workforce 2000* survey conducted by Towers Perrin, a number of traditional and non-traditional strategies are being implemented to ensure companies get the employees they require. Besides a high emphasis on education, training and retraining, the increased use of non-traditional workers is the most common approach.

Figure 19

Approaches to Recruiting

Program	Full Scale Implementation	% Planned	Total
Partnerships with Education	54%	11%	65%
Recruit Non-Traditional Workers	34%	21%	55%
Retrain Present Workers	37%	17%	54%
Use Marketing to Attract Workers	39%	13%	52%
Encourage Job Rotation	29%	17%	46%
Increase Part-Time Workers	32%	11%	43%
Recruit Outside Local Areas	37%	5%	42%
Restructure Job Descriptions	21%	17%	38%
Run Job Fairs	27%	10%	37%
Use Contingency Workers	28%	8%	36%
Increase Use of Consultants	30%	6%	36%
Call Back Retirees	26%	7%	30%
Raise Entry-Level Salaries	23%	7%	30%
Pay Incentives for Referrals	23%	6%	11%
Recruit Overseas	9%	2%	11%
Provide Transportation	6%	1%	7%
Pay Sign-On Bonus	5%	2%	7%
Transfer Work Overseas	2%	1%	3%

(Source: Towers Perrin. Hudson Institute of Canada. *Workforce 2000*. 1991.)

3. Use of Non-Traditional Labour

Because of demographic changes including the aging of the population and declining birth rates, the traditional sources of labour force entrants will decline. Males youths between fifteen and twenty-four years of age will comprise only 6.3% of the population in 2011 as compared to 9.4% of the population in 1976. In order to increase the labour supply, other non-traditional means of labour must be sought out. Business, however, has not yet begun to identify the issues surrounding managing a culturally diverse workforce. A study by Towers Perrin stated that while visible minorities make up between 0% and 15% of employee populations, no special programs are in place to help hire, manage, and promote these individuals. Nonetheless, the use of non-traditional labour is one solutior to the future labour and skills shortages. This includes the need to:

a. Hire More Visible Minority and Native People

The numbers of these visible minorities in the labour force are on the rise. We can expect immigration to rise to 200 000 per year by 1994, up from 180 000 in the late 1980's. Visible minorities accounted for 9.5% of the population and 10.4% of the B.C. labour force in 1986. In Vancouver, the proportion is higher at 20% of the metropolitan population as compared to 13% in 1981.

The number of native people, including the percentage of youths within this group, is also rising. Between 1981 and 1986, the native population grew by 57% as compared to the general population which grew at a rate of only 6%. In the labour force, native people accounted for 3.5% in 1986, up from 2% in 1981. Youths accounted for 27% of the population compared to 23% for visible minorities and 21% for the population as a whole. The high proportion of native and visible minority people means they will comprise a growing proportion of the labour force.

In terms of educational attainment, however, visible minorities tend to have a large proportion of individuals at either end of the scale. In 1986, 15% of visible minorities had a university education; however, 17% had less than grade 9 education. In regard to native people, 3% possessed a university degree and 20% has less than a grade 9 education. For the total population the percentages are 9% and 11% respectively. However, both native and visible minority people are achieving higher levels of education at an increasing rate.

b. Hire More Women

It is projected that by the year 2000, the participation rate for women will be the same as for men up to the age of fifty-five. Recent rapid growth of the female labour force has occurred since the 1970's, especially for married women and those with children. By the year 2000, it is expected that for those individuals under the age of fifty-five, the participation rate for women will be the same as for men. Between, 1975 and 1990, the participation rate for women moved from 45% to 58%, while the rate for men fell from 77% to 74%. The reasons for this growth in the proportion of working women in the workforce include a higher divorce rate, higher cost of living, a lower birth rate, higher educational levels, and increasing career ambitions.

According to a Towers Perrin study, in 33% of organizations that responded, women made up more than 50% of the full-time work force. In 49% of the organizations, women made up more than 50% of the part-time work force. Management has begun to express concerns about the needs of women workers. Almost half of the respondents had some workplace policies which addressed this group.

c. Hire Disabled Individuals

There are about 1.8 million disabled people of working age in Canada. Approximately 80% of these individuals are either unemployed or underemployed. There are some barriers to hiring more disabled individuals in the workplace. Employers, for example, commit no more than $500 on average, to accommodate the needs of a disabled employee. Skill levels may also be a problem. More than 50% of people with disabilities have not completed high school, compared to 28.5% of able-bodied Canadians.

d. Hire and Retain Older Workers

Older works are defined to include those individuals 45 to 64 years of age. Those over 64 are referred to as seniors. In 1989, older workers totalled approximately 600 000 in B.C. By 2001, however, this group is expected to number 908 000 and to reach 1 million by 2005. By 2008 this group will actually exceed the number of 25 to 44 year olds. At this time they will comprise over 27% of the population. Over 16% of the population will then be over 65 years of age. The average age of the population will be over 40 years of age as compared to 29.1 in 1986.

In terms of labour force participation, traditionally low unemployment rates for older workers have been replaced by unemployment rates 2% to 3% higher than of those within the 25 to 54 year old age group. The duration of unemployment is also much higher amongst older workers. Older workers, in general, also have lower education levels than individuals within younger age groups. In 1989, for example, 20.1% of the population 45 years of age and over had a grade 8 education or less. This is almost double the rate of 10.7% for the entire B.C. population and almost four times the 4.0% rate of the 25 to 44 year old age group who have a grade 8 education or lower. Retraining will be necessary in order to upgrade this group of older workers. The Towers Perrin study, *Workforce 2000*, reveals that problems associated with the aging of the workforce have not yet become serious issues for 64% of survey respondents, even though for a majority of them, one-third of their workforce is over age 40. The average retirement age is between 60 and 65 for 67% of those surveyed.

The increasingly large size of this group has significant impacts on social and economic trends and developments. Further, as the current baby boom ages, increasing pressure will be put on resources such as the health and pension systems. Older workers may find it difficult to keep pace with changes in technology. Other challenging adjustments to the labour force include the conflict which will arise between work and retirement and leisure. Older workers will be required as a resource which may create a more flexible work environment including contract work, job sharing, continuous learning and retraining, and telecommuting. Statistics also show that older workers may have to receive high incentives to remain in the workforce. The number of men age 55 to 64 in the workforce, for example, has dropped by almost 20% in the last two decades. The participation rate for this group has fallen from 85% in 1969 to 65% in 1990. Having adequate and accessible pension income is cited as the dominant factor in the decision to retire early.

e. Hire Temps or Part-Time Help

Non-standard employment is concentrated within the services sector. Non standard employment in this case, typically refers to part-time work which accounted for 15.1% of total employment in 1989. A recent study states that from 1975 to 1989, reliance on part-time work increased from 7.1% to 13.5%. Almost 90% of all part time workers are employed in the service sector. Within this group, women represent more than 70% of the part-time workforce. Workers between the ages of 15 and 24 represent 42.2%. Elderly workers over 65 also represent a growing component of the part-time work force. Compensation for part-time workers is low and reflects the only employment option for some groups. Average hourly rates are 73.7% less than those of full-time workers. Only 20.8% of part-time workers are unionized compared to 37.6% of full-time workers. Within the unionized work force, part-time workers are paid 89% of the wages paid to unionized full-time workers.

f. Improve Productivity

The approaching labour shortage may also be dealt with by either increasing output, with the same amount of inputs, or keeping output constant with a decrease in inputs. If the input is labour, competent management, empowerment, and continuous training will serve to decrease reliance on a large labour force. Product innovation, effective marketing, and good engineering will also assist with improving productivity.

Economic success in Canada will go beyond the hiring of workers. As we enter the global economy, there are four critical success factors which will determine our ability to differentiate ourselves from competitors. These are quality, customization, speed, and customer service. As companies restructure, therefore, reorganization must be geared to: the dramatic increase in the quality of products and services; the anticipation and satisfaction of unique customer requirements; rapid production systems and the swift execution of decisions toward meeting customer needs; and improved support of customers and their purchase decisions. In fact, businesses are already changing their organizational strategies to meet these goals. The *Workforce 2000* report outlines a number of strategic initiatives companies have designed to improve productivity and competitiveness

Figure 20

Top New Organizational Strategies

Strategic Changes	% of Respondents Reporting Changes
- Increased use of technology/automation/capital investment.	59%
- Designed strategic communication processes to help build. employee commitment to business objectives.	46%
- Reorganized work tasks or activities to create greater labour efficiencies.	46%
- Specific steps taken to encourage innovation and productivity improvement at the operating level.	46%
- Enhance benefit program to attract/retain workers.	43%
- Developed a more supportive culture to reduce turnover and enhance productivity.	39%
- Increased salaries to retain workers.	34%
- Entered into alliances with education/training organizations to train potential workers.	25%
- Restructure work teams to include contingency workers.	21%
- Modified strategic objectives , priorities or expectations.	19%
- Changed the workforce profile to be competitive with fewer, more highly priced workers.	19%

(Source: Towers Perrin. Hudson Institute of Canada. *Workforce 2000.* 1991.)

I. Training Trends

Why is training becoming so important to today's workplace?

1. Training Pressures

A survey conducted for the Canadian Labour Market and Productivity Centre revealed that leaders of business and labour both think the most important factor in improving Canada's international competitiveness is better education and worker training. Other surveys of industry representatives have placed similar importance on the need for training. A survey of Canadian and U.S. manufacturers placed training tenth on a list of critical success factors. In British Columbia, a survey of major employers ranked education and skill development fourth in terms of critical success factors for the 1990's and beyond. Training has become a major focus of research activities. A recent study by the Conference Board of Canada lists some important training trends within Canada. The results should be interpreted with some caution as the study only examined those companies with over 200 employees.

There are several major factors which contribute to this growing emphasis on the importance of training.

a. Competition

As Canada shifts from a resource-based and labour-intensive economy to one that is service-based and knowledge-intensive, training is vital if we are to maintain our standard of living. It is not, however, a question of services versus manufacturing. In order to remain competitive, we must do so by becoming a high-wage and high-skill economy. In fact, a 1990 Environics Canada employers survey identified education as the top determinant of competitive ability.

b. Demographics

Approximately three-quarters of the people who will be at work in the first decade of the twenty-first century are already on the job. Therefore, the economic future of Canada depends on those individuals already working, rather than on the skills of future labour force entrants. Increasing competitive pressures and the demand for greater quality are forcing organizations to look to training to solve production problems. In addition, education must be accepted as a normal and continuous work practice as individuals will need to master several new technologies during a career. Ongoing education and training is the solution to keeping the skills of employees current. Statistics show there is a positive correlation between per capita training expenditures and return on investment. Companies defined as the top firms in Canada, by return on investment, typically spend 20% more on training expenditures than other firms.

c. Non-Traditional Labour

The composition of the workforce is also changing. As fewer young people are entering the workforce, the labour pool must be filled with those not traditionally relied on for worker support such as the disabled, immigrants, and the elderly. These groups will require upgrading in order to meet today's increasingly high work standards.

d. Incentive

Organizations are finding it increasingly more difficult to recruit and keep skilled workers. Quality training programs make it easier to attract, retrain, and retain employees. A study by Towers Perrin suggests that partnerships with educational institutions and the retraining of workers rank one and three respectively in terms of the strategies used to recruit workers. Statistics also show that companies defined as " the best to work for" have an average of 36% higher training expenditures per employee than other firms.

e. Improvement and Expansion

A more positive outlook toward training has resulted from its impact on organizations relying on training efforts. Training has also undergone and will continue to benefit from numerous qualitative and quantitative improvements and expansion in activity. Numerous reports cite the importance of education and training, and employers and training providers are responding. In addition, training is now seen more as an essential tool and an investment toward achieving the strategic goals of an organization, rather than as a mere cost of doing business. Ironically, according to a study of 2,300 workers by the Wyatt Company, only 41%of employees are satisfied with the career development and training provided by their employer.

2. Training Expenditures

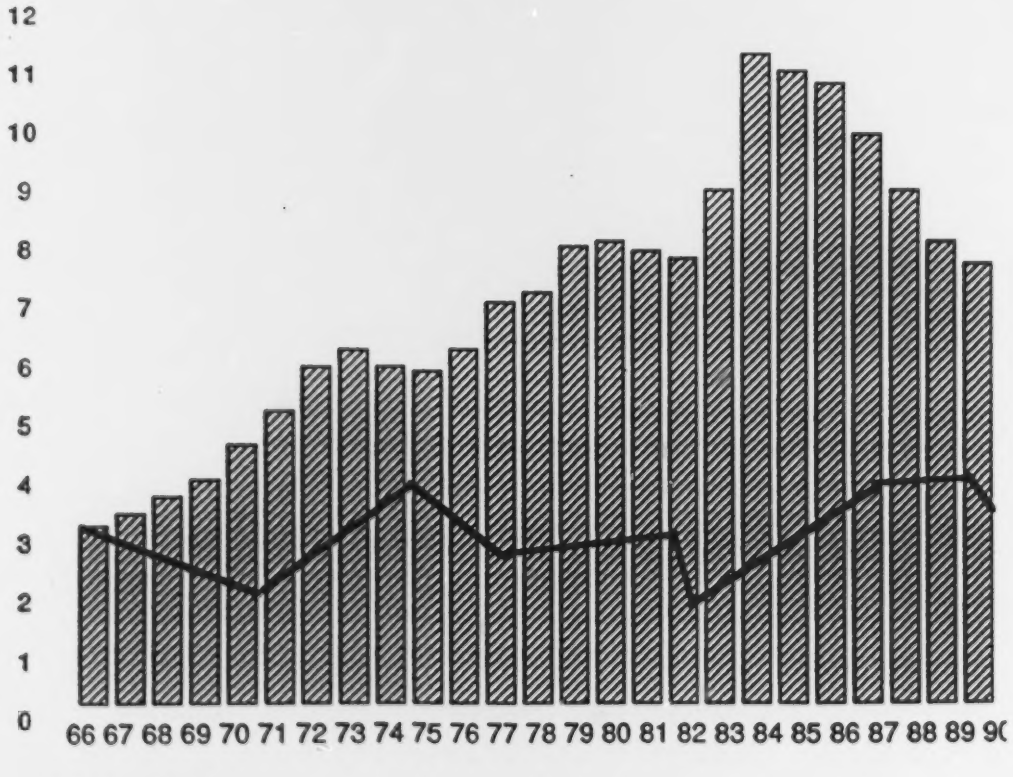
In terms of training, Canadian industry spends half as much on training as U.S. industry, one-fifth as much as the Japanese and one-eighth as much as the Germans. Only 31% of Canadian firms do any formal training. In small firms of less than 10 employees, only 27% of firms train staff. In larger organizations of over 100 workers, 76% train. In 1988, the Organization for Economic Co-operation and Development (OECD) showed that, in terms of public expenditures alone, Canada spends 0.20% of GDP on training. This places Canada tenth among OECD countries. Canada's public and private labour market training expenditures total 0.46% of GDP. This places Canada 1970's among OECD countries. In the May 1991 Speech from the Throne, Canada-wide goals for the year 2000 included quadrupling the training provided by employers.

3. Training and the Economy

New market conditions have forced restructuring of the Canadian economy away from being a supplier of raw resources. Success in the face of these new structural shifts within the economy depends a great deal on the actual competitiveness of Canada and the perception of Canada held by suppliers, competitors, and customers. Our ability to borrow and produce investment capital and attract it away from external sources, for example, will depend on our competitive position. This, in turn, is determined by the quality of our workforce. For maximum flexibility within the workforce, a high and broad level of education, with some areas of specialization, is optimal.

Further, training has an impact on the mismatch between required skills and those now available in the labour market. Critical skills shortages have developed and are currently reflected in the difference between Canadian unemployment and job vacancy rates as illustrated below.

Figure 21
Canadian Unemployment and Job Vacancy Rates



(Source: Canadian Labour Market and Productivity Centre.)

4. Integration of Work and Learning

The workplace is becoming the centre for the majority of training activities. The learning organization is a new concept that fosters continuous improvement for strategies over a long period of time. Essentially, learning organizations improve and sustain performance over time by focussing on six areas: elimination of waste, reduction of bureaucracy, improved customer service, tracking of internal systems, examination of competitors, and continuous training of staff. Innovation results largely from the implementation of six concepts: allow experimentation; foster corporate loyalty; demand open communication; invest in worker training; position middle managers as coaches; and customize job descriptions.

5. Trainers

According to the Conference Board of Canada, approximately 0.4% of staff in Canadian companies are involved in training and development activities. Within most companies, the number of training staff employed is either increasing (3.5%) or holding steady (58.5%). Two-thirds of training departments operate within a centralized training function. The budgets for these departments are expected to increase at an average rate of 11%, 14.4% for the Western provinces. Almost half of these budgets are spent on salaries, 25% of courses and conferences, and 8.3% on external consultants.

Smaller organizations typically rely more on outside courses and off-the-shelf materials while larger companies depend on in-house facilities and staff trainers. Approximately 36% of all training within mid to large sized firms outsource training. The use of outside training experts in all organizations is increasing. As with other departments, such as computing and public relations, companies are trimming internal training departments to remain competitive.

Per capita expenditures for training vary with the size of the organization. Companies employing between 200 and 500 employees spend an average of $549 annually per employee, while those between 2 500 and 10 000 spend an average of $375 annually per employee. The national average training per employee is $450. Transportation, utilities, and communications are the leading sectors spending $747 on training per employee.

6. Training Topics

Overall, computer training is one of the most commonly offered kinds of training, provided by about 90% of companies with over 200 employees. External consultants deliver the bulk of language, executive development, basic literacy/numeracy, professional upgrading and public speaking training. Internal trainers, on the other hand, concentrate on new employee orientation, performance appraisals, quality, hiring and selection and customer service training. Overall, the most common specific types of training offered by organizations are as follows:

Figure 22

Top 15 Training Topics

Training	% of Employers Offering
Computer Training	90%
Management and supervisory	76%
New staff orientation	72%
Occupational health and safety	70%
Performance appraisal	70%
Technical	65%
Time management	65%
Hiring	58%
Customer Service	56%
Safety	55%
Problem Solving	55%
Leadership	53%
Secreterial	53%
Labour Relations	50%
New Procedures	50%

(Source: Conference Board of Canada. *Training and Development 1990: Expenditures and Policies.* Feb 1991.)

The most dissatisfaction arises in specific technical areas as well as in literacy/numeracy and language training. A common problem is a shortage of suppliers. The poor correlation between technical expertise and course design and instruction is another area of criticism.

7. Training Subjects

In general, the employees who need training most are the ones least likely to receive it. Clerical and production workers, along with those in trades occupations, receives significantly fewer training hours per year than individuals in professional and technical occupations. The reality is that the skill and knowledge levels required for *most* jobs are rising and the current practice of training those at the top cannot last if productivity is to improve.

Figure 23

Training by Employee Category

Occupation	Median Hours per Capita
Executive	24
Management	28
Professional/Technical	28
Sales/Marketing	14
Clerical	14
Production	14
Service	14
Trades	14

(Source: Conference Board of Canada. *Training and Development 1990: Expenditures and Policies.* Feb. 1991.)

8. Instructional Delivery Methods

According to the Conference Board of Canada, expenditures on advanced training technologies have been modest. Only 0.3% of training budgets are currently spent on new technologies. The benefits to be gained through the use of these systems include reducing the labour costs of training and facilitating training in remote locations. Most training departments expect to be doubling their use of sophisticated technologies over the next two years as follows:

Figure 24

Training Technologies
(% of respondents)

Type	Now in Use	Use In Two Years
CD-ROM	13	22
Video Cassettes	13	27
Tele & Video conference	12	22
Distance Learning	12	22
Audio Cassettes	11	19
Television Broadcasts	11	16
Computer-Aided Instruction	10	24
Expert Systems	8	14
Authoring Systems	8	14
Compact Disk - Interactive	7.5	15
Computer Conferencing	7	15
Video Disk	6	14
Digital Video - Interactive	0	9
Hyper Text	0	4
Smart Cards	0	3

(Source: Conference Board of Canada. *Training and Development 1990: Expenditures and Policies.* Feb. 1991.)

9. Barriers to Training

A survey of exporters by the Canadian Labour Market Productivity Centre cites a number of barriers to training. The most significant barriers include the inadequate preparation of students at the high school, college, and university level. Additional obstacles include the costs of training, worker literacy levels, trainers and their materials, lack of in-house facilities, and employee turnover. The threat of poaching does not seem to act as a major disincentive to training.

10. Government's Role

A new three-year agreement has been struck by the federal and provincial governments to enable British Columbians to meet the challenges of finding and maintaining stable employment. The Canada - British Columbia Labour Force Development Agreement places increased emphasis on stimulating the private sector to invest in training and upgrading the skills of workers. A total of $585 million will be spent this year to support apprenticeship, human resource planning in the private sector, adult literacy and basic education, co-operative education, labour market adjustments, and English language training. In addition, a change in the Unemployment Insurance Act will allow UIC recipients to enroll in training programs without losing their benefits.

III. RECOMMENDATIONS

In summary, the labour force of the 1990's will be characterized by several features pointing to the critical need for training and skills upgrading—needs which may be met though Open College Planning Council directed initiatives. These features are:

- Slow growth of the workforce.
- Aging of labour force participants.
- Increasing employment in the service sector.
- Concentration of "good" jobs in large metropolitan areas.
- Growth in jobs requiring high skills and knowledge.
- Growth of non-traditional employment .
- Increase in number of non-traditional workers.
- More sophisticated technology in industry and the workplace.
- Information explosion.
- Automation replacing unskilled labour.
- Global competition.
- Acute skilled labour shortages.

There have been minimal changes over the past year to suggest a change in focus in initiatives through the Open College Planning Council. New economic, labour and training trends will continue to emerge over the 1990's; however, there have been no significant developments during the past year. While many shifts are necessary to increase British Columbia's competitive position, in order to remain competitive, emphasis must be placed on the creation of a high skill, high wage economy. Other steps such as increasing the level of innovation, investment, and product development will be made easier through skill building.

The current economic situation may be considered an opportunity. In fact, Canada and B.C. can compete internationally, but it will require hard work and positive new attitudes. Therefore, it is recommended that:

1. Open College continue to emphasize the importance of meeting training needs in the workplace.

   Organizations will soon be forced to meet developments such as skills shortages, reliance on non-traditional labour, competitive pressures, and economic restructuring, through workplace training initiatives. Interest in workplace training is growing rapidly, and companies are beginning to tie training to strategic planning and re-engineering. The trend toward outsourcing also bodes well for the increased use of open learning materials in the workplace.

2. To make the best use of scarce resources training activities must focus on areas of greates importance.

   Within industry, it is recognized that the push toward increased productivity will cause training to become more demand driven. The content and focus of training will become increasingly customized and designed to reflect the unique requirements of the workforce. Open College therefore, cannot afford to discontinue its concentration of resources on the relatively narrow range of subjects demanded by industry. Industry is now seeking out the resources of Open College because of its growing expertise in these needed areas.

3. Recommendations for training priorities result from demand in a few key skill areas.

   Developments in the economy and labour market suggest that the workplace of the 1990's and beyond will continue to demand highly skilled and flexible workers with knowledge in a number of key areas. The skill sets required are generic and applicable to virtually any industry or sector. Each skill set should continue to be addressed through the development of open learning materials as directed through Planning Council.

   - Information Technology

     The increasing use of technology, including computers and telecommunications results from rapid advances in these fields. By some estimates, 90% of scientific knowledge has emerged over the last thirty years. This pool of information is expected to double again within the next fifteen years. All levels of computer training are required including instruction at technical, support and managerial staff levels.

   - Management

     According to Statistics Canada, between 1981 and 1988, the number of professional and managerial jobs increased by 836 000 across Canada. Approximately 68% of net employment growth was created by these new positions.

- Basic Skills

  In 1986, 44% of jobs required greater than grade 12 education. By the year 2000, 65% of jobs created will require more than a high school education. Structural shifts in the economy have increased the need for workers with solid basic skills as well as those with more advanced knowledge. All workers will require basic competency in computer literacy, numeracy, and communication, including reading, writing, and English language skills.

- Service Quality

  In response to fierce levels of competition and increasingly demanding consumers, companies must respond to critical success factors. Improved productivity will depend on cost reductions, as well as higher quality, customization, speed, and customer service. Organizations, therefore, must be geared to: increasing the quality of products and services; anticipating and satisfying unique customer requirements; rapid production systems; improved support of customers and their purchase decisions.

4. Further research must be undertaken in order to correctly identify priority industries. In the near future, sectors which will play key roles in the economy of British Columbia include health, science and technology, and small business. Current efforts to more clearly define key areas will focus on marketing initiatives, and program development in specific industries and tailored to specific occupational groups. These groups include persons already in the workforce, as well as displaced individuals, and non-traditional labor groups.

5. The building of partnerships, both as an indicator of market demand and as a strategic alliance, must be sought out.

   More emphasis must be placed on establishing joint ventures with public and private sector organizations. Employers are beginning to take more responsibility for training their staff. At the same time they are encountering pressures to reduce unit training costs. This will necessitate the use of more flexible alternatives including outsourcing and partnering to leverage existing resources.

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Appendix 1: B.C. Regional Map

BRITISH COLUMBIA DEVELOPMENT REGIONS

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Appendix 2: Government Funding for Training

SELECT FUNDING ALTERNATIVES FOR TRAINING

SCIENCE COUNCIL OF BRITISH COLUMBIA

Program	What it does	Who can participate	Financial support
Training Employment in Science and Technology (TEST)	To assist recent post-secondary graduates in gaining meaningful work experience in the areas of science, technology, engineering and related technical support. Positions should have the potential to enhance the economic development of the company and be in an area of new or enhanced activity for the company OR introduce a new or enhanced level of technology to the company OR be in the area of applied research and development. Positions should be newly created and not replace existing or prior employees.	Employment candidates must have graduated with a degree or diploma from a recognized post-secondary institution. Employment candidates will not have been employed in positions related to their field of study since graduation (or leaving school). Potential employees must have graduated (or left school) not less than 2 months or more than 12 months.	Employees must be paid no less than the minimum wage. The Council will reimburse the employer 60% of the wages paid to a maximum monthly reimbursement of $1500. No more than two concurrent positions may be funded for any one employer. Normally, only one position would be funded at a time Positions must provide full-time employment. Normally, positions will be supported for periods from 4 to 6 months. However, up to 12 months of funding may be granted if the applicant can demonstrate that an extended training period is required.

EMPLOYABILITY IMPROVEMENT: ASSISTANCE TO WORKERS
CANADIAN JOBS STRATEGY
Canada Employment Centre

Component	What it does	Who can participate	Financial support
Project-Based Training	Provides clients with a combination of classroom and on-the-job training to assist them in gaining the skills and training they need to enter and stay in the workforce Each project offers training in areas such as: technical skills, life skills, interpersonal skills, and effectiveness skills. They also assist clients to find employment at the completion of training.	Unemployed young people out of school for at least three months and lacking a post-secondary degree or diploma. Women having difficulty making a successful transition into the labour force Unemployed severely employment-disadvantaged persons.	The coordinator may receive funds to pay participant allowances and wages of administrative staff; a contribution towards mandatory employment-related costs such as vacation pay, funds for overhead costs, training and special costs for persons with disabilities.

EMPLOYABILITY IMPROVEMENT: ASSISTANCE TO WORKERS (continued)
CANADIAN JOBS STRATEGY
Canada Employment Centre

Component	What it does	Who can participate	Financial support
Wage Reimbursement Implementation: December 1, 1991	Provides employers with a wage subsidy to hire selected clients. The objective is for clients to obtain long-term employment with the employer after training is completed.	Generally, people unemployed 24 of the previous 30 weeks. Workers whose jobs are sensitive to technological or changing market conditions.	Employers can receive funds towards wage subsidies, administrative staff salaries, training and special costs for disabled participants. Non-profit employers can also receive assistance towards overhead costs and mandatory employment-related costs such as vacation pay.
Purchase of Training and Income Support	EIC purchases several types of training courses offered through training institutions, corporations, groups or businesses.	Clients referred to approved training courses may be eligible for income support.	Two systems of income support: 1. UI benefits and supplementary allowances 2. Basic training allowances and supplementary allowances, under the authority of the National Training Regulations or the CJS policy statement
Youth Initiatives Implementation: ongoing	Provides a spectrum of interventions for young Canadians with specific employment and training needs. It serves two goals: to encourage young people to complete high school, and to help students make the transition from school to work.	Post-secondary institutions and school boards. (Cooperative Education) Students returning to school in the fall. (Challenge)	Up to $200,000 over a period of 4 years. (Cooperative Education) Employers can receive wage subsidies, overhead costs and mandatory employment-related costs such as vacation pay. (Challenge)

LABOUR MARKET ADJUSTMENT: WORKING WITH EMPLOYERS
CANADIAN JOBS STRATEGY
Canada Employment Centre

Component	What it does	Who can participate	Financial support
Workplace-Based Training Implementation: December 1991	Sharing costs associated with the design and delivery of training for an employer's staff. Two options: 1. **Skill Shortages.** Assists in the training of employed or unemployed persons in areas of regional or potential occupational skill shortages. 2. **Skill Investment.** Assists workers and employers whose jobs are threatened by layoffs. Training can be full-time, part-time, in-house or outside.	Current of newly hired company employees. (Skill Shortages) Workers whose jobs are sensitive to technological or changing market conditions. (Skill Investment)	Assistance towards wages, training costs and special costs for persons with disabilities. The maximum wage subsidy rate is being reduced or eliminated in some instances unless the training is for workers who are risk of lay-off, or for the career progression of workers who are members of an equity group.

LABOUR MARKET ADJUSTMENT: WORKING WITH EMPLOYERS (continued)
CANADIAN JOBS STRATEGY
Canada Employment Centre

Component	What it does	Who can participate	Financial support
Labour Market Adjustment Grants Implementation: ongoing; Training Enhancement Grant, April 1992	Available to help support improvements in the quality of workplace-based training design and delivery or to promote the adoption of a corporate training culture.		

INDUSTRY, SCIENCE, AND TECHNOLOGY CANADA

Program	What it does	Who can participate	Financial support
Automotive Components Initiative (ACI) Diagnostic and Implementation Services	General program assists automotive parts companies in improving their current manufacturing operations. Parts manufacturers may apply for a financial contribution to commission independent experts to assess their corporate operations and to provide ways to improve the quality and delivery of their products. The companies may also receive financial assistance to help implement the resulting recommendations, or recommend-ations from a previous diagnostic.	Ay taxable company which manufactures, or is about to manufacture, automotive components in Canada. Preference is given to those companies will sale of less than $125 million in 1987. ACI does not provide financial assistance to companies that primarily manufacture truck bodies, trailers and trailer coupling; companies that make service and repair equipment for the automotive industry; packagers of automotive parts, paints or chemicals used by the automotive industry; or companies that assemble automotive vehicles.	The ACI may cover up to 50 per cent of the eligible costs of a Diagnostic Service, not to exceed $10,000. The ACI may cover up to 50 per cent of the eligible costs of an implementation Service, not to exceed $100,000.
Advanced Manufacturing Technology Application Program (AMTAP)	AMTAP provides funding for qualified firms to engage outside expertise to assess the commercial and technical feasibility of a comprehensive upgrade of operations through the application of advanced manufacturing technology.	Single applications can be made by any incorporated, taxable company engaged in manufacturing or secondary processing in Canada. Group applications can be made by an incorporated industry association or Canadian corporation on behalf of a group of manufacturing and/or secondary processing companies.	AMTAP contributes up to 60 per cent of the cost of consultants, not to exceed $15,000 for single applications. The maximum contribution for group applications is $200,000, not to exceed $15,000 per company.

Appendix 3: B.C. Regional Profiles

BRITISH COLUMBIA REGIONAL REPORTS

SUMMARY OF MAJOR PROJECTS IN B.C./YUKON*
BY LABOUR MARKET AREA AND STATUS
March 1991

Labour Market	Total	Completed	Underway	Planned	Proposed	Postponed	Cancelled
British Columbia**	5	1	3	-	1	-	-
Surrey Area	54	3	21	8	17	2	3
Metro Vancouver	77	8	21	2	42	1	3
North/Central/Skeena	64	5	19	4	20	8	8
Okanagan/Kootenays	70	10	12	12	27	8	1
Vancouver Island	57	8	18	4	21	2	4
Yukon Territory	8	-	3	1	3	1	-
Totals	**335**	**35**	**97**	**31**	**131**	**22**	**19**

* Major projects are defined as being over $10 million in Metro Vancouver, Surrey Area and $5 million in value elsewhere. Construction projects must reach over $100 million or $50 million in these same areas.

** Projects involving more than one Labour Market Area

A. Lower Mainland - Southwest

Regional Districts: Greater Vancouver, Central Fraser Valley, Dewdney-Alouette, Fraser-Cheam, Sunshine Coast, and Squamish-Lillooet

Major Communities: Vancouver, Richmond, Surrey, West Vancouver, North Vancouver, Burnaby, Coquitlam, Port Coquitlam, New Westminster, Delta, Maple Ridge, Mission, Matsqui, Abbotsford, Chilliwack, White Rock

The Lower Mainland - Southwest Region encompasses 4.2 per cent of total Provincial land area. In 1990, it had a population of 1,700,000, an increase from 1,650,000 in 1988. Regional average income was $21,165 (compared with the Provincial average of $18,590), while per capita income was $14,650 in 1988. The average unemployment rate for all sectors was 7.9 per cent in September 1991.

The Greater Vancouver Regional District relies on service industries, trade and manufacturing for its basis of economic activity. The surrounding districts are dominated by primary resource and agricultural industries.

B. Vancouver Island - Coast

Regional Districts: Capital, Cowichan Valley, Nanaimo, Alberni-Clayoquot, Comox-Strathcona, Mount Waddington, Powell River, and Central Coast

Major Communities: Campbell River, Port Alberni, Victoria, Duncan, Esquimalt, Nanaimo, Saanich, Powell River

The Vancouver Island - Coast Region encompasses 9.8 per cent of total Provincial land area. In 1990, it had a population of 593,000, an increase from 555,100 in 1988. Regional average income was $19,325, while per capita income was $13,300 in 1988. A large portion of inhabitants in the Region are retirees whose incomes are earned from pensions and investments. It is estimated that in 1996, the over-70 age group will represent 11.8% of the Regional population. The average unemployment rate for all sectors was 10.9 per cent in September 1991.

The economic base of the Provincial Capital area is reliant on service industries, in particular public administration and defence spending; trade; and manufacturing. Continued expansion of the tourist and retirement industries plays an important role in the Regional economy. Resource-based industries - primary manufacturing, forestry, fishing, and mining- are dominant in various districts.

Those communities which rely more heavily on resource-based industries than public services are more sensitive to changing economic conditions. With the continued push for international boycotts of Canadian lumber products by environmentalists, Duncan, Lake Cowichan, Ladysmith, Alberni, Campbell River, Bute Inlet, Port Hardy, and Powell River could be adversely affected.

C. Kootenay

Regional Districts: Central Kootenay, Kootenay Boundary, and East Kootenay

Major Communities: Trail, Castlegar, Cranbrook, Kimberley, Nelson

The Kootenay Region encompasses 6.7 per cent of total Provincial land area. In 1990, it had a population of 125,000, a decrease from 126,873 in 1988. Population growth has been negative every year since 1982, and is expected to decline further. Regional average income was $18,250, while per capita income was $13,000 in 1988. The average unemployment rate for all sectors was 11.9 per cent in September 1991.

Economic activity in the Kootenay Region is dominated by primary resources. The Fernie area and Kimberley are well endowed with coal mining and the Nelson area is primarily forestry based. Farming, logging, and sawmilling activities are widespread in the southern sector, while tourist trade is of importance in the north. Cranbrook serves as the Regional centre for trade, commercial services, transportation and government services.

A downturn in the economy will most likely affect those communities which are reliant on single industries. Since forestry and mining employ a large percentage of the workforce, 11 per cent and 10 per cent in 1988 respectively, the Region's forecast is not very positive. Communities which are well diversified, eg., Creston, will be less prone to economic repercussions than towns such as Fernie and Kimberley.

D. Thompson - Okanagan

Regional Districts: North Okanagan, Central Okanagan, Okanagan-Similkameen, Thompson-Nicola, and Columbia Shuswap

Major Communities: Kelowna, Kamloops, Penticton, Vernon, Revelstoke, Salmon Arm, Merritt

The Thompson-Okanagan Region encompasses 10.8 per cent of total Provincial land area. In 1990, it had a population of 355,000, an increase from 348,793 in 1988. Regional average income was $17,300, while per capita income was $12,080 in 1988. Low paying jobs in the tourism industry and a large retirement population account for the Region's below provincial average, but stable, income. The average unemployment rate for all sectors was 12.1 per cent in September 1991.

Economic activity in the Thompson-Okanagan Region varies by area. Agriculture, forestry, tourism, manufacturing, and retirement industries are predominant in Penticton, Peachland, Kelowna, Vernon and Salmon Arm. Forestry remains the forefront industry in the Princeton area. Agriculture and manufacturing activities are significant in the Oliver-Osoyoos area, while mining is paramount in the southern part of the Region..

The tourism and retirement industries represents the fastest growth industries in the Region. Kelowna, Peachland, and Vernon have developed into large retirement communities. Markets catering to the needs of the elderly have flourished in these areas. The tourism industry is also diversifying within these southern communities.

Due to their heavy dependence on logging and milling, a slowdown in the forest industry will most likely affect the communities of Salmon Arm, Golden, Merritt, and North Thompson.

E. Cariboo

Regional Districts: Fraser-Fort George and Cariboo

Major Communities: Prince George, Williams Lake, Quesnel

The Cariboo Region encompasses 13.5 per cent of total Provincial land area. In 1990, it had a population of 145,000, a decrease from 146,121 in 1988. Over the next decade, the Regional population, in particular the Prince George area, is expected to increase by 16 per cent. The Cariboo population is considerably younger than the Provincial average - 54 per cent of its inhabitants are under 30 years of age. Regional average income was $19,160, while per capita income was $12,980 in 1988. The average unemployment rate for all sectors was 11.6 per cent in September 1991.

Economic activity is well diversified, being based on forestry, mining, and agriculture resources. Prince George, the major trade, service and manufacturing centre of the Region enjoys the most diversification. Currently, forestry and related manufacturing dominate the Cariboo Region in economic activity.

The Region's dependence on the pulp and paper, milling, and logging industry could adversely affect the community during a slowdown in the economy. The areas of most concern would be Williams Lake, Quesnel, McBride, and Valemount.

F. Northern B.C. (North Coast, Nechako, North East)

Regional Districts: Kitimat-Stikine, Skeena-Queen Charlotte, Bulkley-Nechako, Peace River and Fort Nelson-Liard

Major Communities: Kitimat, Terrace, Prince Rupert, Stewart, Smithers, Fort St. James, Vanderhoof, Cassiar, Dawson Creek, Tumbler Ridge, Fort St. John, Fort Nelson

The Northern B.C. Regions encompasses 55 per cent of total Provincial land area. In 1990, it had a population of 152,000, a decrease from 156,049 in 1988. Only the population of the North Coast is expected to grow, due mainly to development expansions. The inhabitants of the Regions are fairly young. It is estimated that by 1996, the percentage of people over the age of 55 will be 14.37. Per capita income was $12,728 in 1988. The average unemployment rate for all sectors was 9.7 per cent in September 1991.

Forestry and primary manufacturing are the basis of economic activity in the North Coast Region. In the southern and interior North Coast Region and the Queen Charlotte Islands, economic activity is centred primarily around forestry. Aluminum smelting and forestry are dominant industries in the Kitimat - Terrace area. Fishing and fish processing plays an integral part around the Prince Rupert area. Stewart's local economy is based on mining and mineral exploration.

With its abundant resources, the forest industry is the leading source of employment in the Nechako Region. Logging and forestry provides 11 per cent of the Region's employment, while manufacturing and mining support 20 and 5 per cent, respectively. All communities within the Stikine area rely primarily on mining for economic support.

The economy of the North East Region is highly diverse - mining, forestry, agriculture, oil and gas exploration, hydro-electric power are all important sectors. The basis of activity in the Dawson Creek area are agriculture and forestry. Services related to oil and gas exploration and development are the leading sources of employment in the Fort St. John area. The mining and forestry industries comprise 12 and 8 per cent of the Region's employment respectively.

Appendix 4: B.C. Industry Profiles by Region

INDUSTRY	EMPLOYMENT BY INDUSTRY 1988	LOWER MAINLAND - EMPLOYMENT Spring '91 (000's) Industry total 811.5	LAYOFFS / DOWNSIZING	MAJOR PROJECTS / EXPANSION	MISCELLANEOUS
Retail Trade	13%	Retail Trade 101.3	Henry Birks and Sons Ltd. is planning to close 12 stores. Town & Country (owned by Dylex Ltd.) will be closing 162 stores, affecting over 1,300 employees. Grafton-Fraser Ltd. is liquidating 221 stores affecting 1,700 employees. Dalmy's 243 stores, employing 1,700 employees, are facing serious financial problems.	The $40 Peninsula Village Shopping Centre in South Surrey was completed in September of 1991. Construction required 120 person years, operations will create 800 jobs. Phase II of the $36 million Kings Cross Shopping Centre in Surrey is scheduled to begin in 1992 and be completed within a year. Some 600 full and part time jobs will be created.	
Manufacturing	12%	Print & Publishing 12.5 Transport Equipment 6.7	By year end, Indal Building Products in Port Coquitlam will be closing its aluminium window plant. Loss of 77 jobs. CanadianOxy Chemicals closed down its chlorine producing Squamish plant in November. Left 70 workers unemployed.	A $65 million contract from the Ministry of Defence has been rewarded to MacDonald Dettwiler and Associates. The company will build high tech components for 12 Canadian Navy vessels. Expected to employ approximately 100 workers, with completion set for 1994. Canadian Auto Parts Toyota is currently undergoing a $58 million expansion of its wheel plant. Expected completion date set for 1993. An additional 120 jobs will be added.	In 1989, 13 per cent of the population of the GVRD was employed in the manufacturing industry. Wood industries lead employment in manufacturing while food industries generate the greatest value of output. The Region accounts for 55 per cent of Provincial manufacturing jobs and 55 per cent of the value of manufacturing shipments in B.C.
Tourism	8% (Accommodation, Food, Beverage)	Food & Beverage 15.1 Accommodation/ Food 55.2 Amusement/ Recreation 12.0			

INDUSTRY	EMPLOYMENT BY INDUSTRY 1988	LOWER MAINLAND - EMPLOYMENT Spring '91 (000's) Industry total 811.5	LAYOFFS / DOWNSIZING	MAJOR PROJECTS / EXPANSION	MISCELLANEOUS
Health and Social Service	8%	Health/Welfare 79.8		Construction for an $8 million extended care unit at the Langley Memorial Hospital is to begin in Fall 1991. Completion within one year. An additional 100 staff members will be hired. Richmond General Hospital is undergoing a $27 million expansion of its extended care unit.	
Construction	6%	General Contractors 20.4		Intrawest Properties has planned to begin construction of the Gateway 2000 commercial building in Surrey for Fall 1991. Expected completion date: 2001. Operations will add 5000 jobs. VLC Properties Ltd. is planning to construct up to 18 new mid-range residential buildings on the 35-acre Collingwood Village project in Vancouver. It will be built over a period of 10 years, and is expected to create 3,300 housing units. The fifth Bentall tower in Vancouver's downtown core will add 56,000 square metres to office space when it is completed in 1994. In Richmond, approval has been granted for a $30 million hotel and retail complex. Expected completion date for the shopping centre is Dec. 1992, and the hotel shortly thereafter.	Building Permits $(000's): January to June 1990 1991 Langley: 75,700 56,800
Transportation	6%	Transportation 48.6	Up to 125 truckers may be laid off this year with an eventual shut down of the entire Overwaitea Foods Langley distribution centre affecting 300 jobs. Air Canada has announced plans to eliminate some 40 jobs and Canadian Airlines another few hundred.	The $30 million Phase 1 is nearly complete , while the $40 million Phase 2 is now underway at the B.C. Ferries Terminal in Tsawwassen. Construction of the first of B.C. Ferries' two new $130 million S-Class (Super Class) ferries began in March, and will be completed in the spring of 1993. The superstructure (capable of carrying up to 2,00 passengers and 470 cars) is being built by Vito Steel Boat and Barge Construction of Delta and Purvis Navron of Surrey, creating over 180 jobs.The second ferry is due in the spring of 1994.	

INDUSTRY	EMPLOYMENT BY INDUSTRY 1988	LOWER MAINLAND - EMPLOYMENT Spring '91 (000's) Industry total 811.5	LAYOFFS / DOWNSIZING	MAJOR PROJECTS / EXPANSION	MISCELLANEOUS
Educational Service	6%	Education 55.3		The Langley School District was given $26 million to allow for the completion of additions to local elementary and secondary schools. The Surrey School District was allocated $123 million. Construction is underway for the new $38 million Kwantlen College campus in Langley. Completion date is set for August 1993.	
Government Service	6%	Public Administration 39.0			
Forestry	n/a	Wood 9.6	In February, Fort Langley's McDonald Cedar laid off one-half of its total staff, affecting over 100 workers. International Forest Products' Bay Forest sawmill in Haney laid off some 300 workers in October. 150 workers at risk from a possible ban on logging in North Vancouver.	Norvik Timber's sawmill in Delta will begin operations in early 1992 requiring 80 workers. In Abbotsford, production is starting on construction materials for use in Europe and Japan.	The Region comprises 4.4 per cent of total regulated forest area in the Province.
Agriculture	n/a	n/a	B.C. Packers' decision to stop processing farm-raised fish at its Steveston plant has left as many as 100 workers jobless.		The Fraser Valley is the leading agricultural producing area in B.C.
Electronics and Emerging Industries	n/a	Electrical Products 6.4 Communication 22.2		The $708 million KAON project to be built on the site of U.B.C. has received a $236 million share funding from the federal government. Some 5,000 jobs will be created over a six year construction period. Upon completion, approximately 900 international scientists will be working at the facility.	The Lower Mainland dominates this industry, with close to 80 percent of Province-wide employment.

Vancouver Island - Coast

INDUSTRY	EMPLOYMENT BY INDUSTRY 1988	NUMBER OF PERSONS ON UI CLAIM (June 1991)	LAYOFFS / DOWNSIZING	MAJOR PROJECTS / EXPANSION	MISCELLANEOUS
Retail Trade	14%	Campbell River 149			
Government Service	13%	n/a			
Manufacturing	10% (Includes pulp and paper)	Campbell River 366	The Alply plant in Port Alberni shutdown in April, leaving 185 workers unemployed. A-Mill at Somass division closed its operations in August, affecting approximately 100 employees.	Fletcher Challenge (Elk Falls Division), Campbell River's single largest employer is upgrading its pulp and paper mill operations by $100 million. Fletcher Challenge is also undergoing construction for a secondary sewage treatment plant. Victoria's Integrated Ferry Construction Ltd. is managing construction of the first 470 car, $129 million superferry. Launch date is scheduled for May 15, 1992. Coulson Manufacturing Ltd will soon construct a $2.5 million wood products manufacturing facility. Upon completion, 45 direct jobs and up to 60 logging related jobs will be created.	The Region ranks second behind the Mainland-Southwest Region in manufacturing activities. Wood products, including pulp and paper, provide over 60 per cent of manufacturing jobs and output. Other important manufacturing industries include food and beverage, transportation, printing and publishing, electronics, ocean and subsea exploration, and metal fabrication.
Health and Social Service	9%	Campbell River 67			
Tourism	8% (Accommodation, Food, Beverage	n/a		A $45 million facilities expansion of the Mount Washington Ski Resort (3rd busiest ski resort in B.C.) is underway. Presently, the resort services up to 3000 skiers per day, expects to serve 12,000 when construction complete. The new $4.7 million Tsa-Kwa-Luten Lodge on Quadra Island opened in late June. Generated 25 full-time and 37 part-time positions.	Nanaimo will be introducing the first Superhost Japan program in B.C.
Educational Service	7%	n/a		The Ministry of Education has allocated $15 million toward construction and expansion projects to Nanaimo area schools. Expects to generate a significant number of jobs.	

INDUSTRY	EMPLOYMENT BY INDUSTRY 1988	NUMBER OF PERSONS ON UI CLAIM (June 1991)	LAYOFFS / DOWNSIZING	MAJOR PROJECTS / EXPANSION	MISCELLANEOUS
Construction	6%	Campbell River 426		Bamberton has proposed a contract of 5000 new homes over a 20 year period. Expects to create 560 jobs with an annual $25 million payroll.	By the end of April commercial construction values in Qualicum Beach were up 1,347%, and to the end of May, values exceeded $1.1 million, compared to $78,000 last year.
Forestry	n/a	Campbell River 346	Three hundred and sixty nine jobs were lost in August, and an additional 750 jobs are at risk at MacMillan Bloedel's operations in the Port Alberni area. In Nanaimo, temporary closures at Harmac to reduce bleached pulp inventory affects up to 750 workers. Thunderbird Mill laid off 200 workers over the past year.	At the MacMillan Bloedel plant in Port Alberni, employees are discussing buying out the operation in order to keep their jobs.	The Region comprises 6.6 per cent of total regulated forest area in the Province. It contains 6.2 per cent of the total area and 9.8 per cent of the total volume of mature timber in the Province. Approximately nine per cent of Provincial sawmills operate in the Region. Pulp and paper mills account for 46 and 70 per cent of Provincial production respectively. Exploratory research on "Nutrifor" - a new technique made from sewage sludge to speed the growth of trees.
Mining	n/a	Campbell River 55	The BHP Utah Island copper mine is scheduled to close within the next five to ten years, affecting over 500 workers. Westmin Mines in Campbell River laid off 98 workers in August and 150 in September. Additional layoffs are expected in the near future.		
Transportation	4%	n/a	Versatile Pacific's Esquimalt shipyard laid off 150 of its 200 workers.	The Departure Bay and Gabriola ferry terminals will be moved to Duke Point by Spring 1994. The $63 million project is expected to generate over 400 man years of employment in its initial stages.	

Kootenay

INDUSTRY	EMPLOYMENT BY INDUSTRY 1988	NUMBER OF PERSONS ON UI CLAIM (June 1991)	LAYOFFS / DOWNSIZING	MAJOR PROJECTS / EXPANSION	MISCELLANEOUS
Retail Trade	12%	Trail 149			
Mining	11%	n/a	Byron Creek Collieries in Fernie laid off 150 workers in April. Expects to close operation. In Trail, Cominco laid off 266 employees (10% of workforce) during September and October.		The Region ranks second in mining output. Of the total mining employment in B.C., the Region employs over 35 per cent. The Region has two of the six largest mines by employment in B.C. Major products: coal, lead, zinc, and silver.
Tourism	11% (Accommodation, Food, Beverage)	n/a			In 1987, room rental expenditures in the Kootenays were $29.6 million.
Forestry	10%	Grand Forks 116 Nelson 469	Heavy debts are forcing Westar Timber to sell all its B.C. mills.	The Community Forestry (COMFOR) program is expected to create 750 man days of employment for the city of Greenwood. The Nelson Forest Region will receive $188.3 million over the next five years for forest renewal. Will create 8,578 person years of employment.	The Region comprises 3.9 per cent of total regulated forest area in the Province.
Manufacturing	10%	Nelson 207 Trail 253 (processing)	Johnson Matthey closed its operations, affecting 94 workers.		Non-ferrous metal smelting and pulp and paper account for 75 % of manufacturing employment.
Educational Service	6%	n/a			
Health and Social Service	6%	n/a			
Construction	5%	Grand Forks 240 Nelson 511 Trail 510		Celgar is planning a $700 million expansion, employing more than 1,450 construction workers.	Building Permits $(000's): January to June 1990 1991 Regional area: 27,538 23,362
Transportation	5%	Nelson 159			

INDUSTRY	EMPLOYMENT BY INDUSTRY 1988	NUMBER OF PERSONS ON UI CLAIM (June 1991)	LAYOFFS / DOWNSIZING	MAJOR PROJECTS / EXPANSION	MISCELLANEOUS
Retail Trade	14%	Kamloops 544 Merritt 38 Penticton 307		Marathon Reality Co. is expanding the Orchard Park Shopping Centre in Kelowna. The $30 million project began in June 1991 and is expected to finish in 1992. Six hundred part-time jobs will exist.	In Penticton, 10 of the 41 new business licences in June were for retail establishments.
Manufacturing	11%	Kamloops 1,224 Merritt 128 (processing, machinery, production fabricating) Penticton 384		In Merritt, Core-Wood Manufacturing Ltd. and Lundia/Mil Inc. are venturing into manufacturing ready-to-assemble furniture. Expects to provide 127 new jobs within the next five years.	Manufactured products of great importance to the Region are: trucks, mobile homes, and recreational vehicles. In 1989, employment in Regional manufacturing was over 10 per cent of Provincial total.
Tourism	10% (Accommodation, Food, Beverage)	Kamloops 1,020 Merritt 107 (retail sales, tourism, hospitality)		Work began on Indian Band's Government and Cultural Centre (Kamloops). Expects to become a major tourist attraction. Largest skill area expansion in North America this year is the Silver Star Mountain in Vernon. The 10 million project will improve skiable terrain by over 150 per cent.	In 1987, Regional room rental expenditures totalled $70 million (13.8 per cent of Provincial total).
Health and Social Service	8%	Kamloops 235 Merritt 17 (medicine and health)		A proposal has been made for a new cancer clinic at Royal Inland Hospital in Kamloops. If implemented, 100 new jobs will be created as well as $25 million in area construction.	
Agriculture and Related	7%	Kamloops 206 Merritt 118 Penticton 1,051			This Region ranks second behind the Lower Mainland-Southwest Region in agricultural production.
Construction	7%	Kamloops 1,338 Merritt 183 Penticton 667			Building Permits $(000's): January to June 1990 1991 Kamloops: 43,203 31,228 January to July 1990 1991 Penticton: 6,602 20,800

Thompson - Okanagan (continued)

INDUSTRY	EMPLOYMENT BY INDUSTRY 1988	NUMBER OF PERSONS ON UI CLAIM (June 1991)	LAYOFFS / DOWNSIZING	MAJOR PROJECTS / EXPANSION	MISCELLANEOUS
Mining and Energy	3%	Kamloops 103 Merritt 28 Penticton 88	Brenda Mine in Peachland closed June 1990, leaving 400 unemployed. Afton Operating Corp. of the Kamloops copper gold mine has closed, affecting 196 workers. In February, Similco Mines near Princeton laid off 47. Nickel Plate mine in Hedley expected closure, loss of 170 jobs.		
Forestry	2%	Kamloops 506 Merritt 128 Penticton 209	Weyerhaeuser's Merritt plant laid off 20 workers in April. After nine months, 400 of Armstrong's Fletcher Challenge employees went back to work in June.	In Kamloops, a $205.3 million forest renewal program is expected to employ a substantial number over the next five years. In Penticton, a 1000 per cent increase in funding for intensive silviculture is expected to generate 64,500 person years of employment. Tolk Industries expanded its Heffley Creek plywood division, recalled 60 employees. Thompson River Hardwoods opened a new veneer plant in August. Initially hired 25, up to 90 if expand to three shift operation. One hundred and twenty five Federated Co-operatives returned to work with the re-opening of canoe sawmill (closed since Christmas). Milestone Wood Products Inc. in Spalumcheen producing high standard components for window frames for European market. Created 50 jobs.	Thompson-Okanagan Economic Development Region comprises 9.5 per cent of total regulated forest area in the Province. In 1986, 36 saw mills operated within the Region.

INDUSTRY	EMPLOYMENT BY INDUSTRY 1988	NUMBER OF PERSONS ON UI CLAIM* (June 1991)	LAYOFFS / DOWNSIZING	MAJOR PROJECTS / EXPANSION	MISCELLANEOUS
Manufacturing	18% (pulp and paper, etc.)	Prince George 1055 Quesnel 463 Williams Lake 266 (processing, machining, and fabricating)		In October, Quesnel's Cariboo Pulp & Paper completed construction on a $13 million efficient lagoon - twice the previous size. Canadian Woodworks has committed $4.2 million toward expansion plans.	Forestry manufacturing supports 85 per cent of manufacturing employment in the Region.
Retail Trade	12%	Prince George 482 Quesnel 158 Williams Lake 113	Workers went back to work in July at Williams Lake's Woolco store. The strike began in Dec. 1990 when 58 employees walked out. In late May, store operations ceased.		Prince George acts is known as the Regional shopping destination.
Tourism	8% (Accommodation, Food, Beverage)	Prince George 891 Quesnel 250 Williams Lake 288		Construction is stated to begin in spring 1992 for a $540,000 Prince George tourism centre.	
Forestry	7%	Prince George 946 Quesnel 421 Williams Lake 486	A four week shutdown of Weldwood of Canada's plywood operation in Quesnel affected 350 employees in January.	The Prince George Forest Region will receive $318.4 million over the next five years for forest improvement. Quesnel will receive a $700,000 allotment.	The Region comprises almost 15 per cent of total regulated forest area in the Province. In 1987, 34 major lumber mills operated within the Region. Pulp and paper accounts for approximately 29 per cent of manufacturing employment in the Region.
Transportation	7%	Prince George 678 Quesnel 243 Williams Lake 256			
Educational Service	6%	Prince George 99 Quesnel 38 Williams Lake 45		In Quesnel, the Ministry of Education has allocated $3.28 million in funding to construct a new facility to replace the much disputed Pinecrest Elementary School.	
Health and Social Service	6%	Prince George 160 Quesnel 45 Williams Lake 42			

* UI claims for Prince George and Quesnel taken May 1991
UI claims for Williams Lake taken June 1991

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Cariboo (continued)

INDUSTRY	EMPLOYMENT BY INDUSTRY 1988	NUMBER OF PERSONS ON UI CLAIM* (June 1991)	LAYOFFS / DOWNSIZING	MAJOR PROJECTS / EXPANSION	MISCELLANEOUS
Construction	5%	Prince George 1262 Quesnel 323 Williams Lake 403			Building Permits $(000's): January to May 1990 1991 Prince George: 26,617 19,238 January to July 1990 1991 Quesnel: 1,052 1,335
Agriculture	4%	Prince George 283 Quesnel 90 Williams Lake 114			With its leading cattle ranching, the Region comprises over 20 per cent of ranching operations in the Province.
Mining	3%	Prince George 35 Quesnel 11 Williams Lake 13		Construction of the Place Dome in Prince George will employ approximately 800 persons during its peak period. The Mont Polley copper-gold mine, expected to come on stream in Williams Lake within the next two years, will employ 250.	The Gibralter copper-gold-silver-molybdenum mine is the only mine in the Region and is expected to close in the next five to 10 years.

* UI claims for Prince George and Quesnel taken May 1991
UI claims for Williams Lake taken June 1991

INDUSTRY	EMPLOYMENT BY INDUSTRY 1988	LAYOFFS / DOWNSIZING	MAJOR PROJECTS / EXPANSION	MISCELLANEOUS
Manufacturing	North Coast 22% Nechako 20%	Specialty Woods International in Dawson Creek closed its plant, affecting approximately 100 workers.	Burns Lake will soon have a $13 million plant to manufacture wood products. The plant is a joint venture of local lumber companies and native groups with federal government support.	Over 50 per cent of the North Coast's manufacturing employment is derived from aluminium smelting in Kitimat. In the Nechako Region, milling activities represent over 90 per cent of employment.
Government Service	North Coast 10%			
Retail Trade	North Coast 10%			
Transportation	North Coast 8%			
Educational Service	North Coast 7%		Northwest Community College hired several more instructors this past fall after adopting a more than $9 million budget.	
Tourism	North Coast 7% (Accommodation, Food, Beverage)			
Health and Social Service	North Coast 6%		The Dawson Creek and District Hospital was granted $12 million toward the expansion of its facilities. Both Dawson Creek and Fort St. John will have new health centres (each of which will cost $2.3 million) by Spring 1992.	
Construction	North Coast 5%	About 750 workers have been affected by the Kemano Completion Project layoffs. Awaiting additional environmental impact analysis.	Ocelot Industries is proposing a $60 million plant expansion. The proposal will create 18 long-term jobs and up to 600 people will be employed during construction. The $200 million expansion of the Westcoast Energy gas plant in Taylor has created up to 450 construction jobs. When expansion is complete, an additional 20 to 25 people will be employed by Westcoast.	Building Permits $(000's): July 1990 1991 Prince Rupert: 349 1,419
Forestry	Nechako 11% North East 8%	Several shutdowns at the MacMillan Bloedel operation on the Queen Charlotte Islands affect about 425 workers.	In New Hazelton, Stege Logging Ltd. sawmill acquired a Japanese partner and is switching its market from Britain to Japan. A new facility is under construction to replace old premises, providing 80 jobs and work for contract loggers. Orenda Forest Products is proposing to construct a $365 million pulp and paper mill eight kilometres south of Lakelse Lake. Expects to provide 143 full time jobs and inject an estimated $192 million annually into the Regional economy. It will also create 570 person-years of employment while under construction.	The North Coast, Nechako, and North East Regions comprise 10.9, 22.5, and 25.2 per cent of total regulated forest area in B.C. In 1986, Nechako's 16 mills accounted for 11.8 per cent of B.C.'s capacity.

Northern B.C. (continued)

INDUSTRY	EMPLOYMENT BY INDUSTRY 1988	LAYOFFS / DOWNSIZING	MAJOR PROJECTS / EXPANSION	MISCELLANEOUS
Mining	Nechako 5% North East 12%	Equity Silver Mine is scheduled to close in October, 1992. The result will be a loss of 171 direct jobs. Expected closures of Equity and possible Noranda's Bell mine at Granisle in 1992, affecting over 1,200 workers.	The new Windy Craggy copper/cobalt/gold/silver mine employs 618 workers. The Mt. Milligan Copper- Gold mine project north of Fort St. James is underway. Expected completion in 1993, at which time full operations will employ 400. The Cirque lead/zinc, silver mine near Fort St. John expects to open within the next three years. It will create approximately 250 jobs.	In 1987, all of the 1200 oil and gas wells counted were originally discovered in the North East Region.
Oil and Natural Gas	n/a	In July, Petro Canada closed its oil refinery in Taylor, affecting 118 jobs.	B.C. natural gas industry had its biggest sale ever - $1.6 billion worth of gas to California over the next 13 years. Thus, workers must drill at least 50 new wells annually. This activity alone should provide about 700 jobs. Final approval has been received for Westcoast Energy and CU Power to construct a $115 million co-generation facility in Taylor. Construction to begin spring 1992, finish by October 1993.	

LABOUR MARKET AND TRAINING UPDATE:
Autumn 1992

Prepared for
The Open College Planning Council

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I. BACKGROUND

The purpose of this report is to provide a brief update to the findings presented in the 1991/92 document *Labour Trends and Training Needs in British Columbia*. The objective is to identify to what extent the economy has changed over the past year which would warrant a change in the strategic direction of the Open College.

II. ECONOMIC AND LABOUR MARKET OVERVIEW

A. World Overview

The recession continues to plague nations worldwide. Strong economic growth is not predicted to occur for another two years.

Figure 1
OECD Forecasts for G7 Countries

	Economic Growth in 1992 (%)	Unemployment Rate in 1992 (%)	Annual Productivity Growth, 1979—1990
Canada	**2.3**	**10.4**	**0.0**
United States	2.1	7.1	0.2
France	2.0	9.8	1.8
Japan	1.8	2.2	2.0
Italy	1.5	11.2	1.4
Germany	1.3	4.7	0.8
Britain	0.4	9.8	1.6

(Source: OECD. *The Globe and Mail*. "Fear stalks IMF gathering." "OECD's annual survey finds Canadian productivity poor." 1992.)

Figure 2
International Monetary Fund (IMF) 1993 Outlook

	Growth (%)	Unemployment (%)	Inflation (%)
Canada	**4.4**	**11.0**	**2.0**
United States	3.1	7.1	3.1
Britain	2.1	10.1	3.0
France	2.7	10.0	2.8
Germany	2.6	7.7	4.2
Italy	1.5	10.9	5.1
Japan	3.8	2.2	2.4

(Source: IMF World Economic Outlook. *The Globe and Mail*. "IMF cuts growth forecast." 1992.)

The World Economic Forum of Geneva and the International Institute for Management Development released their annual report of the competitive standings of 22 industrialized nations. As been the case since the first edition of the report in 1980, Japan topped the list overall.

Figure 3
Developed Countries' Competitiveness Ranks

Overall '92	Overall '91	Country	Economic Strength	Internation-alization	Govern-ment	Finance	Infra-structure	Manage-ment	Science & Technology	People
1	1	Japan	1	6	3	4	5	1	1	1
2	3	Germany	2	1	2	5	6	2	2	3
3	4	Switzerland	7	11	5	2	4	3	4	4
4	8	Denmark	8	3	7	1	8	4	8	2
5	2	United States	3	10	4	6	2	9	3	7
6	7	Netherlands	9	2	9	3	14	7	6	6
7	6	Austria	5	7	10	9	10	6	10	11
8	12	Sweden	19	9	14	11	7	5	5	5
9	13	Ireland	4	5	8	13	18	10	12	10
10	9	Finland	11	18	12	15	9	11	7	9
11	**5**	**Canada**	**15**	**17**	**11**	**7**	**3**	**15**	**17**	**8**
12	11	Belgium/Lux.	6	4	18	10	15	8	11	16
13	10	Britain	13	8	6	8	16	16	14	20
14	15	France	10	13	19	12	12	12	9	15
15	18	New Zealand	21	16	1	16	13	18	18	14
16	16	Australia	17	21	13	14	11	19	15	13
17	14	Norway	18	19	20	20	1	13	13	12
18	19	Spain	12	12	17	17	17	20	19	17
19	17	Italy	16	15	22	18	19	14	16	22
20	21	Portugal	14	14	16	21	20	22	21	18
21	20	Turkey	20	20	15	19	21	17	22	19
22	22	Greece	22	22	21	22	22	21	20	21

Domestic economic strength: micro-economic evaluation of the domestic economy, including size of the economy, investment, inflation, and economic growth.

Internationalization: measures the extent to which the country participates in international trade and investment flows by examining terms of trade, exports, imports, and cross-border investment flows.

Government: an assessment of whether government policies are conducive to competitiveness, including consideration of debt and reserves, tax rates and revenue, and the legislative and regulatory environment.

Finance: the performance of capital markets and the quality of financial services is measured by the size of banks, capitalization of stock markets, availability of venture capital, interest rates, and financial alternatives.

Infrastructure: the extent to which resources and systems are adequate to serve the basic needs of business is assessed using data on oil imports, self-sufficiency in resources and recycling, as well as on information, communications, and transportation systems.

Management: the extent to which enterprises are managed in an innovative, profitable, and responsible manner, evaluated through indicators of product quality and pricing, productivity, compensation, use of technology, employee turnover, corporate financial performance, and managerial behaviour.

Science and technology: scientific and technological capacity, together with the success of basic and applied research, comprises spending on R&D, number of scientists in industry, patents, and protection of intellectual property.

People: the availability and qualification of human resources, including the size, growth, and structure of the population, employment, education, motivation, and skills.

(Source: The World Competitiveness Report. *The Globe and Mail*. "Canada downgraded in competitiveness report." 1992.)

1. United States

The economy is showing signs of recovery from the recession; although it is occurring at a slow rate. A 2.5 per cent to 3.0 per cent growth is expected for 1993. The absence of inflationary pressures along with declines in interest rates and the value of the American dollar have contributed to a boost in trading activity. However, retail sales are low, housing starts remain stagnant, and production growth in aerospace, defence, and automotive manufacturing is falling.

Extreme consumer caution is hindering the economy from a solid rebound. Consumers do not have the growing incomes needed to sustain any real spending increase (consumer spending accounts for about two-thirds of all U.S. expenditures).

From mid 1990 up to February 1992, 2.2 million jobs were lost. An estimated 85 per cent of those job losses are expected to be permanent. White-collar workers have accounted for more than one-quarter of the lost jobs since 1990. U.S. companies over the first five months of this year laid off 1 548 workers every business day — an increase from 1 508 a day in 1991 and 1 307 a day in 1990. Corporate staff cuts will claim an estimated 400 000 jobs this year.

2. Europe

Attention is currently centred on: (1) the economical and political integration of the European Community and European Free Trade Association countries by January 1993; and (2) the worst currency crisis in two decades — the overvaluation of the German mark to the devaluation of the British pound, Italian lira, and Spanish peseta.

Notwithstanding, European economies remain relatively consistent. Western Europe is still experiencing major job layoffs. Britain continues to fight off high consumer debt, fragile housing markets, and high real interest rates. Russia's economy continues to stumble — its gross domestic product (GDP) in mid 1992 was 30 per cent less than it was in 1989.

3. Asia

For the most part, Asian countries are forecasting economic growth. It is estimated that by the year 2000, Asian-Pacific countries will account for at least one-third of total world production and trade. Industrial activity in China has been buoyant — in July, output grew almost 22 per cent, industrial sales grew over 24 per cent, and during January--August, output grew close to 20 per cent —

and is expected to last until the turn of the century. In 1991, GDP growth rates for China, Thailand, Malaysia, Singapore, and Taiwan was seven to eight per cent. Similar growth is forecasted for 1992.

However, Japan's economy is lagging behind. Bankruptcies, layoffs, reduced hiring, and declining asset values are now becoming predominant. High interest rates have deterred capital investment abroad. Real GDP has slowed from 6.0 per cent in 1990 to about 2.5 per cent to 3.0 per cent for 1992.

B. The Canadian Economy

1. Outlook

The recession is taking its toll. The nation is counting on a stronger U.S. recovery to help escape from the recession. The economy is predicted to grow by 1.0 per cent this year, and 3.4 per cent in 1993.

Figure 4
Real Domestic Product
(% change)

	1991	1992	1993
Newfoundland	1.1	-0.3	2.9
P.E.I.	-0.4	0.4	1.6
Nova Scotia	-1.0	-0.3	2.2
New Brunswick	-1.6	-0.4	2.3
Quebec	-1.1	0.4	2.6
Ontario	-1.3	1.0	3.6
Manitoba	-3.3	1.1	3.0
Saskatchewan	0.2	-0.8	2.3
Alberta	-0.6	1.2	3.1
British Columbia	-0.8	2.5	3.3
CANADA	-1.5	1.0	3.4

(Source: The Conference Board of Canada. *The Vancouver Sun*. "Immigration wafting B.C. to prosperity." 1992.)

Positive factors:

- Inflation levels have been at less than 2.0 per cent since January — in June it was at 1.1 per cent (the lowest level since May 1962).
- Interest rates at low levels not seen since the 1960s.
- Continued decline in the value of the Canadian dollar.
- Rapid growth in exports to record levels.
- Increases in manufacturing output, retail sales, and house sales.
- Decline in cross-border shopping as Canadian retailers become more competitive to keep customers.

With further improvement from the U.S. economy, Canada should experience a sustained recovery.

- Canadian economy expected to grow by 2.3 per cent this year.
- Consumers reluctant to spend themselves out of the recession (re: consumer spending accounts for about 60 per cent of GDP) — due primarily to job insecurity and corporate structural adjustments.

2. Demographics and Employment

Since April 1990, job losses have been over 462 000. The Conference Board of Canada predicts that the unemployment rate will not drop back to its pre-recession level — about eight per cent — until 1997. Therefore, this statistic will remain above 11 per cent through 1993. The current recession produced fewer discouraged workers in the spring than the recession of the early 1980s. The number of people out of work and no longer looking for a new job in March 1992 was 99 000 — up from 77 000 in March 1981.

Figure 5
Seasonally Adjusted Unemployment Rates (%)

	Sept. 1992	Sept. 1991
Canada	11.4	10.2
Newfoundland	19.2	17.7
Prince Edward Island	17.9	17.7
Nova Scotia	12.3	12.6
New Brunswick	12.3	12.8
Quebec	12.5	12.1
Ontario	11.3	9.2
Manitoba	9.2	9.2
Saskatchewan	8.4	7.5
Alberta	9.2	8.1
British Columbia	10.6	9.8

(Source: Employment and Immigration Canada. *Economic Review*. October 1992.)

3. Productivity

Although the recovery will be productivity-led, the weak economy has ramifications for Canadian producers. Forecasts indicate that Canada will be down $70 billion in lost production for 1992 (production is only at 90.8 per cent of capacity). Employers trimmed employment and hours worked to reflect slowdowns in demand.

According to the International Institute for Management Development's 1992 World Competitiveness Report, in 1991 Canada moved from 5th overall to 11th.

As well, the nation ranked 17th in international trade and investment performance, 15th in quality of management, 17th in science and technology, and 20th in restructuring for long-term competitiveness.

Provincial barriers to the free movement of goods, services, capital, and labour are affecting an estimated ten to 15 per cent of GDP.

4. Trade

Exports grew by 6.7 per cent in first quarter of the year. In the first quarter of this year, merchandise trade produced a surplus of $3 billion — compared with a $7.4 billion surplus for all of 1991.

5. Industries and Industrial Development

Technology-oriented industries have continued to grow despite recessionary factors. However, Canada's resource-based industries are struggling to maintain a firm foothold in economic developments.

Figure 6
Emerging Industries*

	5-Year GDP Change (%)	Share of GDP (%)
Office Machines	98	0.4
Pharmaceutical, Medicine	79	0.3
Gold Mines	65	0.3
Telecommunications	54	2.9
Pipelines/Gas Distribution	32	1.1
Financial Services	24	6.8
Soft Drinks	15	0.2
Motor Vehicles, Parts	15	1.7
Plastics and Resins	7	0.2
Rubber	4	0.2
TOTAL OF ABOVE	**28**	**14.1**

* The ten industries which together account for more than 14 per cent of Canadian output.

(Source: Burns Fry. *The Globe and Mail*. "10 Canadian industries slough off recession." 1992.)

Figure 7
Collapsing Industries*

	5-Year GDP Change (%)	Share of GDP (%)
Major Appliances	-55	—
Cement/Concrete	-40	0.3
Toilet Preparations	-38	0.1
Household Furniture	-36	0.1
Office Furniture	-33	0.1
Clothing	-27	0.4
Soap, Cleaning Compounds	-24	0.1
Printing, Publishing	-17	0.8
Accommodation, Food Service	-12	2.0
Other	N/A	2.6
TOTAL OF ABOVE	**-20**	**6.5**

* The ten industries which together account for less than seven per cent of Canadian output.

(Source: Burns Fry. *The Globe and Mail*. "10 Canadian industries slough off recession." 1992.)

C. The B.C. Economy

1. Outlook

B.C. continues to outperform the other provinces and will lead the country in economic growth. Real domestic product is expected to expand by 2.5 per cent in 1992 (more than twice that of Alberta, the next strongest province) and by 3.3 percent in 1993. Much of the growth will be centred around resource-based industries.

However, due to sluggish growth in consumer and corporate spending and the lower than forecasted exports of coal, pulp, and paper, an unexpectedly high budget deficit will surface this year. An estimated $1.8 billion deficit will be incurred.

2. Demographics and Employment

Rapid population growth is stimulating domestic demand. In 1991, B.C.'s population was over 3.2 million — an increase of 85 000 from 1990 — of which 33 572 and 25 066 were interprovincial and international immigrants, respectively. The influx of immigrants helped stimulate a 33 per cent increase in construction of new housing in urban areas in first seven months of 1992. However, the Conference Board expects net immigration to fall to 15 000 in 1993.

The estimated provincial unemployment rate for 1992 is 10.8 per cent.

3. Trade

Export activity in B.C. has been growing steadily. The depreciation of the Canadian dollar against major trading currencies has increased export activity. B.C. sends a significantly lower proportion of its exports to the U.S. (41.9 per cent in 1990) as compared to the national average (74.4 per cent in 1990).

Figure 8
B.C. Trade Destination Breakdown

	1980	1990
United States	45%	42%
Pacific Rim	29%	38%
Europe	21%	15%
other	5%	5%

(Source: Background Paper Prepared for the Premier's Summit on Trade and Economic Opportunity, June 17-19, 1992. *British Columbia in the World Economy*. 1992.)

D. Provincial Industries and Industrial Development

B.C.'s resource-based industries continue to experience negative reactions to the recession. However, bright spots do appear in the health, housing construction, and high-tech industries.

1. Forestry

The B.C. forest industry continues to struggle. Losses incurred this year could reach between $200 million to $500 million. An area of concern is the U.S. duty of 6.5 per cent placed on softwood. The ability to compete globally is hindered by B.C. mills' high carrying costs and their small, out-dated facilities.

Figure 9
B.C. Forest Industry Profit/(Loss) in $million

	1991	1990	1989
Lumber	(334)	(281)	77
Plywood	(2)	(4)	35
Market Pulp	(250)	227	694
Newsprint	(152)	(33)	36
Other operations	(131)	82	309
TOTAL	**(869)**	**(9)**	**1 151**

(Source: The Globe and Mail. "B.C. forest industry sees more losses ahead." 1992.)

2. Mining

All indications point to serious setbacks for the industry. The exploration budget dropped by 35 per cent in 1991 to $110 million — this is expected to drop further in the future. Of the 24 major mines operating in 1991, about two-thirds may close by the year 2000. Few replacement mines are planned. Coal faces a particularly bleak future.

3. Manufacturing

Positive signs loom for the provincial economy. The total number of jobs in manufacturing in the Greater Vancouver area has increased by over 10 000 from 1988—1991. Production activity is growing in electronics, biotechnology, medicine, and pharmaceutical sectors.

4. Health

Health and welfare is now the second largest service sector in the province employing 129 700 persons in 1990. In response to B.C.'s rapidly growing and aging population, as well as rising longevity, health will experience the highest provincial growth rate of 4.0% annually. By the year 2000, employment is projected to add almost 72 000 jobs and total 201 600 persons.

5. Construction

The industry is experiencing phenomenal growth in most regions of B.C. In Greater Kelowna, more houses have been built recently than the entire provinces of Manitoba and Saskatchewan combined. The boom in residential construction and renovation work is due, in part, to lower interest rates and to federal government incentives

6. Fisheries and Aquaculture

The industry provides an annual revenue of $1 billion to the economy — 70 per cent from exports to Europe and the U.S. Employment has stabilized with 11 000 employed in harvesting and 9 000 employed in processing.

7. Agriculture

Cross-bording shopping is a pressing concern for the agriculture industry. An estimated $200 million is lost when British Columbians choose to buy cheaper American produce.

8. Transportation

Uncertainty in the Canadian airline industry — in the face of proposed mergers — has prompted companies to cut staff levels considerably.

9. Science and Technology

The science and technology sector will provide an additional 20 000 new jobs in the next five years. However, employment in consulting/engineering is down and is forecasted to continue to decline until mid 1993.

10. Tourism

Tourism generates an estimated $5 billion to the provincial GDP. Presently the industry is flagged by: deflation in the hotel sector; shortage of well-educated entry personnel; need for provincial help in marketing BC as a tourist destination; and deficiencies in border services.

E. Workplace Developments

The percentage of older workers, those between 45 and 64 years of age, in the workforce is expected to grow by over 35 per cent over the next decade. To help alleviate current skill shortages and retain these workers, more training will be necessary.

Figure 10
Older Workers in the Canadian Workforce

	1981	1986	1991	1996	2001
45 and older (000s)	3 157	3 244	3 669	4 337	5 073
5-year growth	9%	3%	13%	18%	17%
% of workforce	27%	26%	27%	29%	32%

(Source: Statistics Canada. *Canadian Business*. "Kenworth's Gray Revolution." 1992.)

Figure 11
Training Rate of Paid Workforce in Employer-Sponsored Part-Time Training, by Age, 1989—1990

	All Trainees ('000)	Training Rate (%)
Total	**1 134**	**14**
Age		
17-19	13	2
20-24	99	8
25-34	481	15
35-44	453	16
45-54	219	13
55-64	68	8

(Sources: Adult Education and Training Survey and Labour Force Survey, 1990. Statistics Canada. *Perspectives on Labour and Income*. "Studying on the job." Summer 1992.)

F. Occupations and Demand

Industries which rely heavily on their human resources' "brain power" have created over 89 per cent of all new employment. This "New Economy" is where demand for jobs is expected to thrive.

Figure 12
High Knowledge Intensive Industries*
Net Job Creation and Loss 1984—1991

Health Services	128 400
Education	123 000
Business Services	50 900
Recreational Services	4 600
Pharmaceuticals/Medicine	4 500
Consumer Electronics	-1 400
Broadcasting	-3 000
Other Services	-3 300
Job losses	**-7 700**
Job creation	**311 400**
Net job creation	**303 700**

* Industries where more than 40 per cent of employees qualify as professionals, e.g., engineers, technical and scientific staff, and selected senior management.

(Source: Nuala Beck & Associates. *The Globe and Mail*. "The rising value of brain power." 1992.)

Figure 13
Total Employment and GDP Share of Canadian Industries, 1991

	Industry Sector	% of Total Employment	Share of GDP
New Economy	• Computers & semiconductors • Health & medical • Communications & telecommunications • Instrumentation	69.2%	67.6%
Watch List	• Financial services • Autos & auto parts • Residential construction • Government (all levels)	15.7%	20.0%
Old Economy	• Steel & machine tools	10.1%	12.4%
other		5.0%	—

(Source: Nuala Beck & Associates. *The Globe and Mail.* "Where the engines roar—and sputter." 1992.)

In B.C., the service sector now dominates the labour market. Over 76% of B.C. workers are employed in services. In particular, home-based businesses are increasing at an alarming rate in B.C. — a recent study by the National Home Business Institute found an estimated 200 000 people run a business from their home.

Figure 14
The Largest Services Sectors

	Projected B.C. Employment in 2000	
	Number of Jobs	%
Retail Trade	227 900	24.6
Health & Welfare	201 600	21.7
Accommodation & Food	155 600	16.8
Business Services	126 600	13.7
Education	114 100	12.3
Finance, Insurance, & Real Estate	101 300	10.9
Total of above	**927 100**	**100.0**

(Source: COPS December 1991. Employment and Immigration Canada. *Economic Review.* October 1992.)

G. Critical Skills

Of increasing importance to individuals, as well as companies, are transitional skills. Given a broad area of expertise, employees are able to easily move from one set of duties to another. With organizational changes, employment and promotional potential are maximized while losses in productivity are minimized. These critical areas include: information technology; management; basic skills; and service quality.

Figure 15
Employability Skills Profile: The Critical Skills Required of the Canadian Workforce

Academic Skills Those skills which provide the basic foundation to get, keep, and progress on a job and to achieve the best results.	**Personal Management Skills** The combination of skills, attitudes, and behaviours required to get, keep, and progress on a job and to achieve the best results.	**Teamwork Skills** Those skills needed to work with others on a job and to achieve the best results.
Canadian employers need a person who can: **Communicate** • Understand and speak the business language • Listen to understand and learn • Read, comprehend, and use written materials • Write effectively **Think** • Think critically and logically to evaluate situations, solve problems, and make decisions • Understand and solve problems involving mathematics and use the results • Use technology effectively • Access and apply specialized knowledge from various fields **Learn** • Continue to learn for life	Canadian employers need a person who can demonstrate: **Positive Attitudes and Behaviours** • Self-esteem and confidence • Honesty and personal ethics • A positive attitude toward learning and personal health • Initiative to get the job done **Responsibility** • The ability to set personal and work goals • The ability to plan and manage resources • Accountability for actions taken **Adaptability** • A positive attitude toward change • Recognition of and respect for people's individual differences • The ability to identify and suggest new ideas to get the job done — creatively	Canadian employers need a person who can: **Work with Others** • Understand and contribute to the organization's goals • Understand and work within the culture of the group • Plan and make decisions with others and support the outcomes • Respect other opinions • Exercise "give and take" to achieve group results • Seek a team approach as appropriate • Lead when appropriate

(Source: Maryann McLaughlin. The Conference Board of Canada. *Employability Skills Profile: What Are Employers Looking For?* April 1992.)

H. Skills Shortages

Canadian spending on education as a percentage of GDP ranks high among the industrialized nations. However, additional spending alone will not alleviate the prevalent skill shortages. In its annual survey of the Canadian economy, the Organization for Economic Co-operation and Development reinforced the importance of increasing the emphasis on basic literacy and numeracy skills in the primary and secondary school systems.

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Figure 16
Total Education Spending
As a % of GDP (1987)

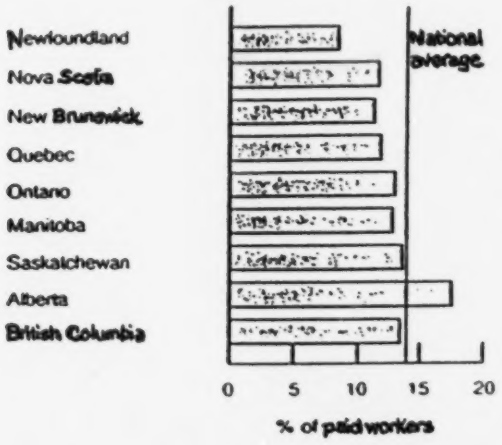
Denmark	7.57
Netherlands	7.33
Canada	**7.12**
France	6.59
United States	6.44
Japan	6.38
Australia	5.63
Germany	4.41

(Source: OECD. *The Globe and Mail*. "OECD's annual survey finds Canadian productivity poor." 1992.)

I. Training Trends

More and more employers are realizing the necessity of training and developing employees to compete in today's global economy. This is evidenced by the Adult Education and Training Survey (1990) and the Labour Force Survey (1990) which reported that during 1990 over 1.5 million Canadian workers over the age of 16 took employer-sponsored education or training courses.

Figure 17
Rate of Employer-Sponsored Part-Time Training by Province
1989—1990



(Sources: Adult Education and Training Survey and Labour Force Survey, 1990. Statistics Canada. *Perspectives on Labour and Income*. "Studying on the job." Summer 1992.)

Figure 18

Training Rate of Paid Workforce in Employer-Sponsored Part-Time Training, by Selected Characteristics, 1989—1990

	All Trainees '000	Training Rate %
All industries	**1 334**	**14**
Forestry, fishing, and mining	41	16
Manufacturing	217	11
Construction	25	4
Transportation	63	15
Communication	50	19
Utilities	43	31
Trades	146	9
Finance, insurance, and real estate	133	22
Community services	292	17
Commercial services	116	8
Public Administration	202	28
All occupations**	**1 334**	**14**
Managerial and administrative	323	25
Natural science	109	28
Social science	43	25
Teaching	70	17
Medicine	89	19
Artistic	12	10
Clerical	231	13
Sales	83	10
Service	78	7
Mining	11	20
Processing	24	6
Machining	15	7
Fabricating	111	12
Construction	49	8
Transportation	40	10
Material Handling	14	5
Other crafts	15	11
All levels of education	**1 334**	**14**
Grades 0 to 8	25	3
Some secondary education	98	5
High school graduation	284	12
Some postsecondary	133	18
Postsecondary certificate or diploma	471	19
University degree	324	25

** Includes occupations in religion, farming, forestry, and fishing.

(Sources: Adult Education and Training Survey and Labour Force Survey, 1990. Statistics Canada. *Perspectives on Labour and Income*. "Studying on the job." Summer 1992.)

Employer-supported training is also highlighted in a recent Canadian Federation of Independent Business survey on the training activities of various small businesses in Canada. The major findings are summarized below.

Figure 19
Survey Findings:
Upgrading at Work in B.C. — The Extent and Cost of On-the-Job Training in Smaller Firms in B.C.

	B.C. Average	Canadian Average
Extent of on-the-job training		
- Proportion of firms training	59%	60%
- Proportion of the workforce receiving training	43%	38%
- Number of employees per firm receiving:		
Informal training only	3.5	3.8
Formal training only	1.3	1.8
Both formal and informal	1.5	1.8
- Duration (days per employee) of:		
Informal training	25	25
Formal training	22	17
Cost of Training		
- Basic hourly wage rate for employees receiving:		
Informal training	$9.80	$9.20
Formal training	$14.50	$11.90
- Total cost (including wage cost per employee plus cost of services from external consultants/suppliers) of:		
Informal on-the job training per trainee	$2 150	$1 990
Formal on-the-job training per trainee	$3 770	$2 510
Training in the Future		
- Firms engaged in training who were not satisfied and believed they should be doing more	50%	47%
- Firms who did not think that increased training would be necessary at the present time	42%	40%
- Firms who had trained during the previous twelve month period in question and did not think they should be doing more training	8%	13%

(Source: Canadian Federation of Independent Business. *Upgrading at Work in B.C. — The Extent and Cost of On-the-Job Training in Smaller Firms in B.C.* August 1992.)

III. RECOMMENDATIONS

Developments in the economy, and labour market specifically, suggest that the workplace of the 1990s and beyond will continue to demand highly skilled and flexible workers. The skill sets required have not changed from earlier Open College Planning Council reports and include:

- Information Technology
- Management
- Basic Skills
- Service Quality.

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